

FIG. 1

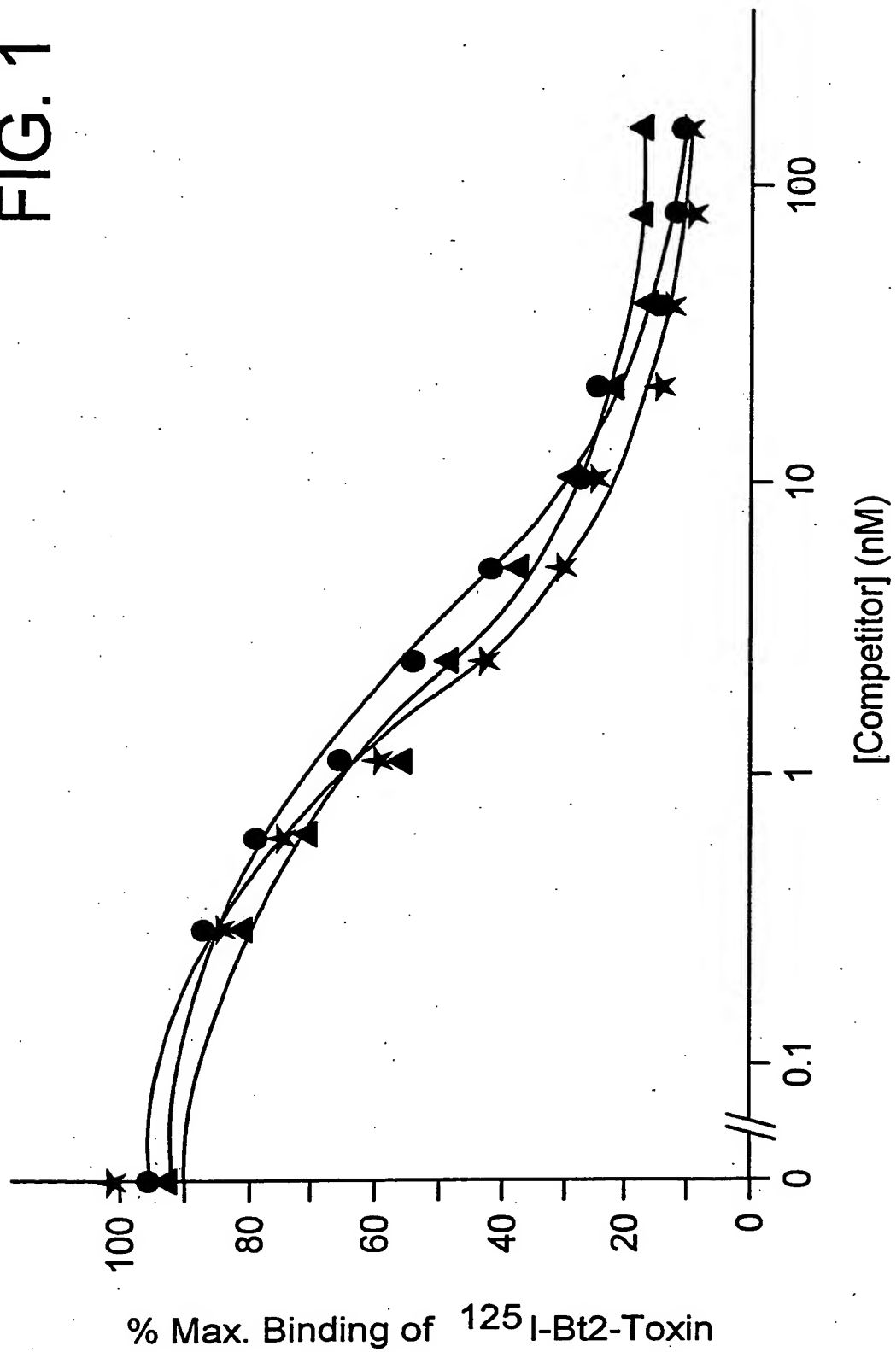


FIG. 2

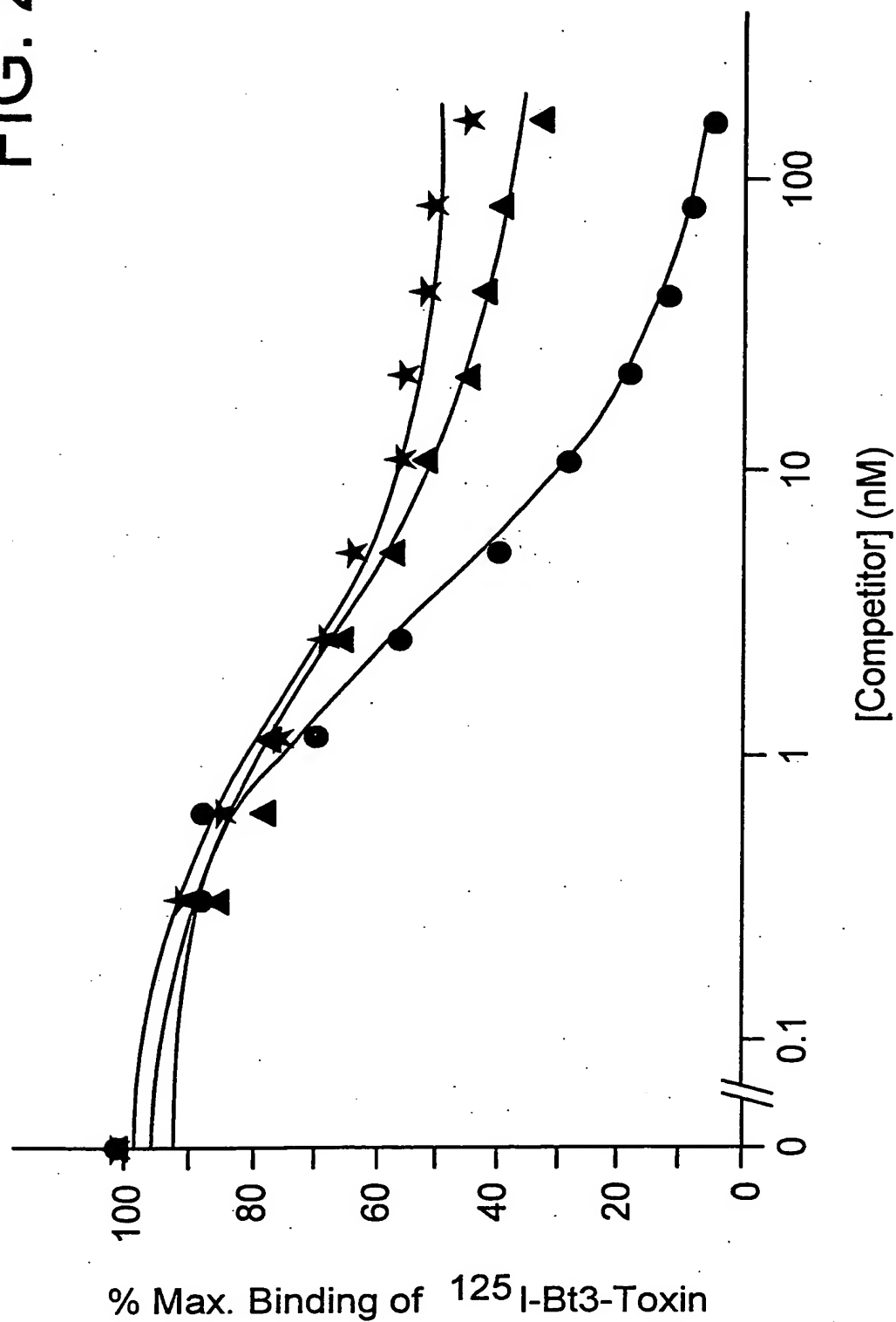


FIG. 3

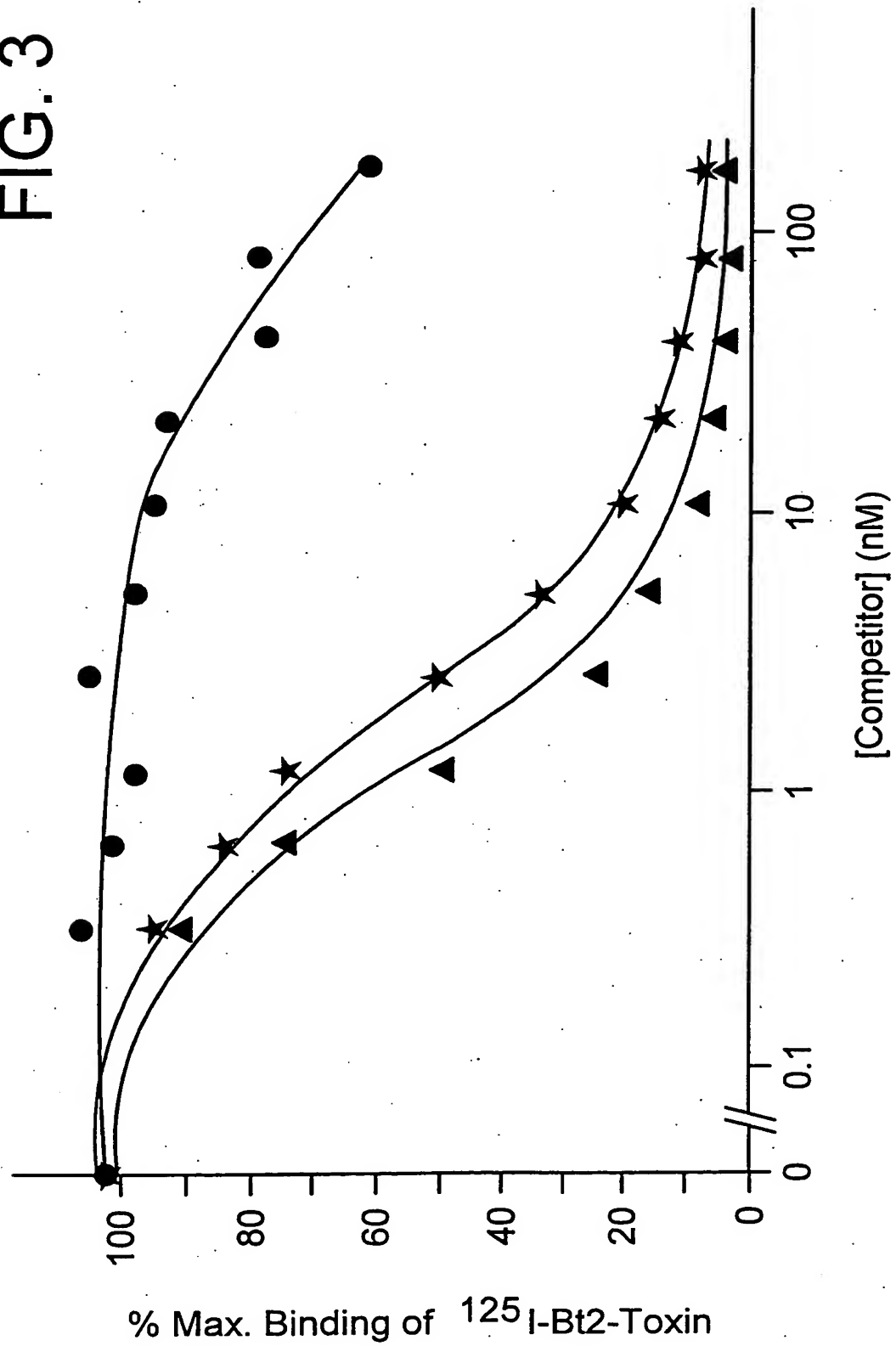


FIG. 4

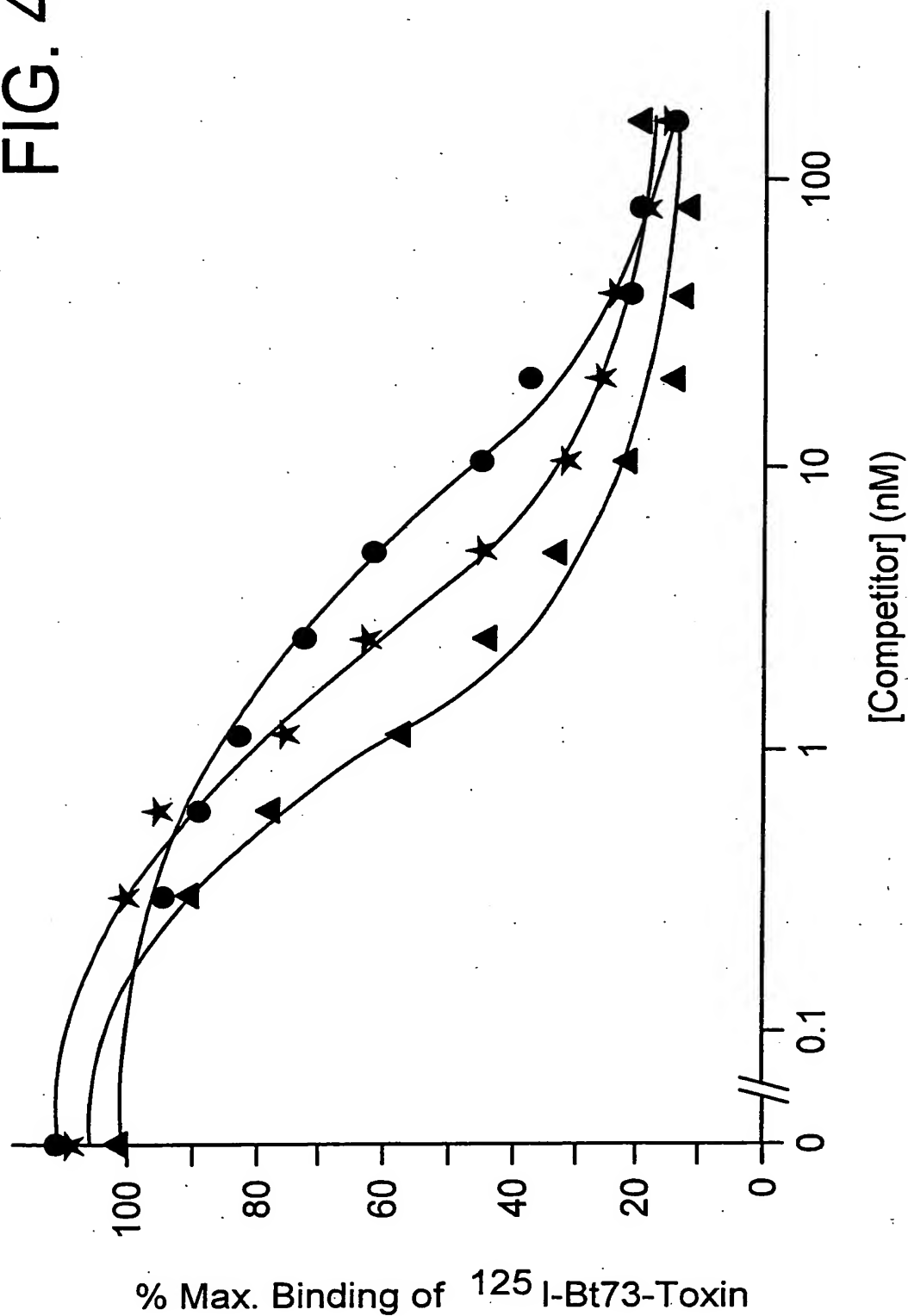


FIG. 5

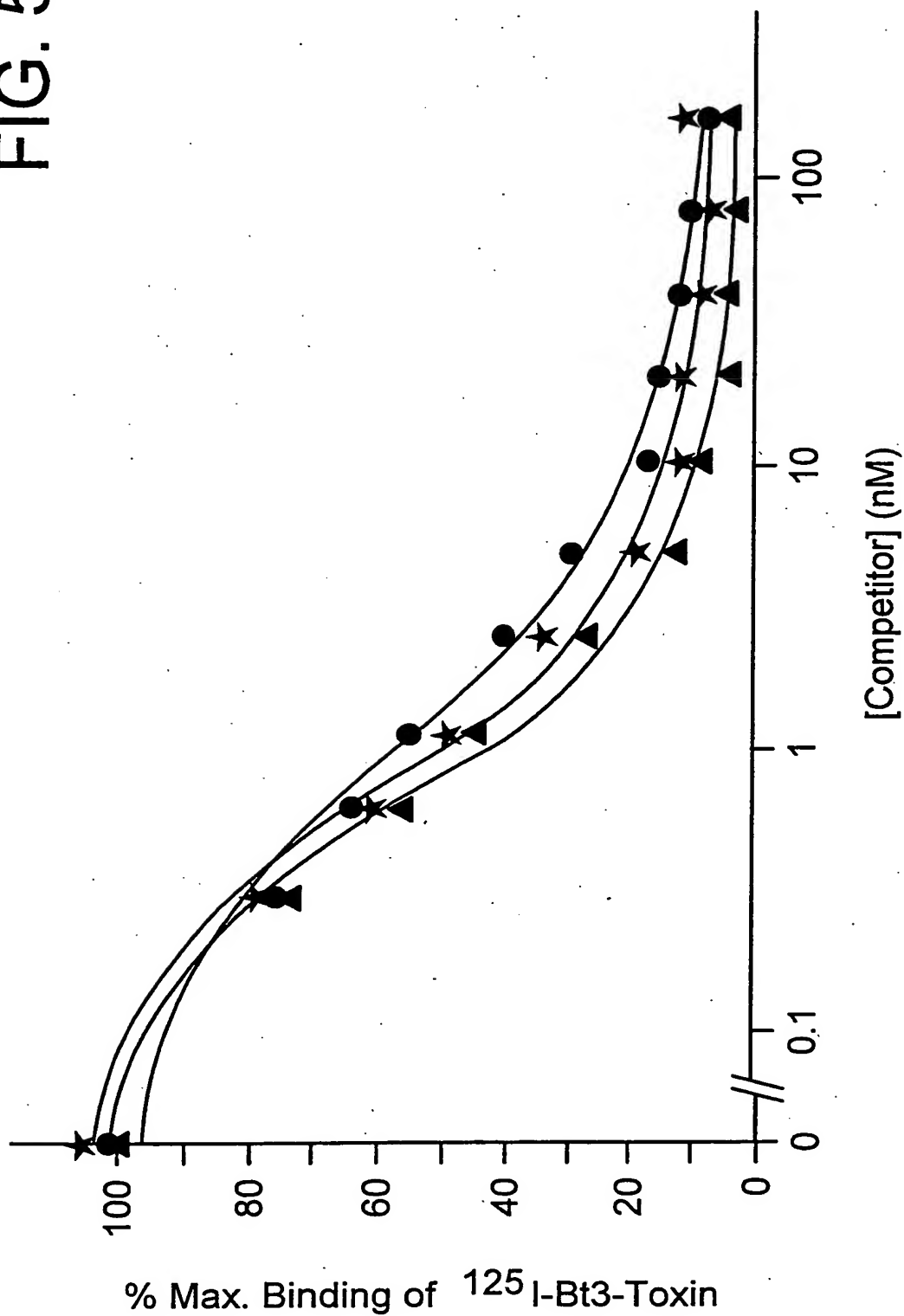


FIG. 6

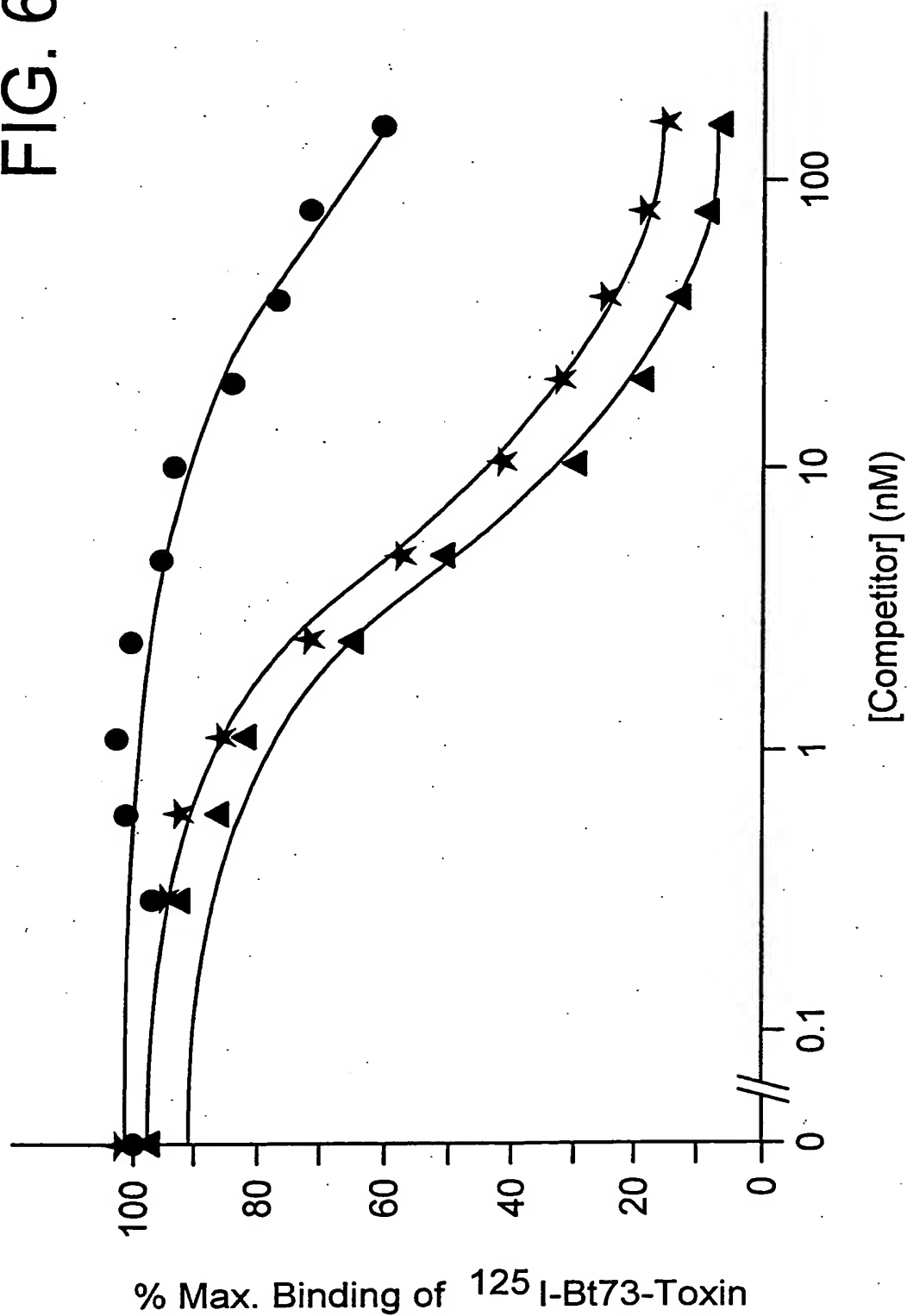


FIG. 7

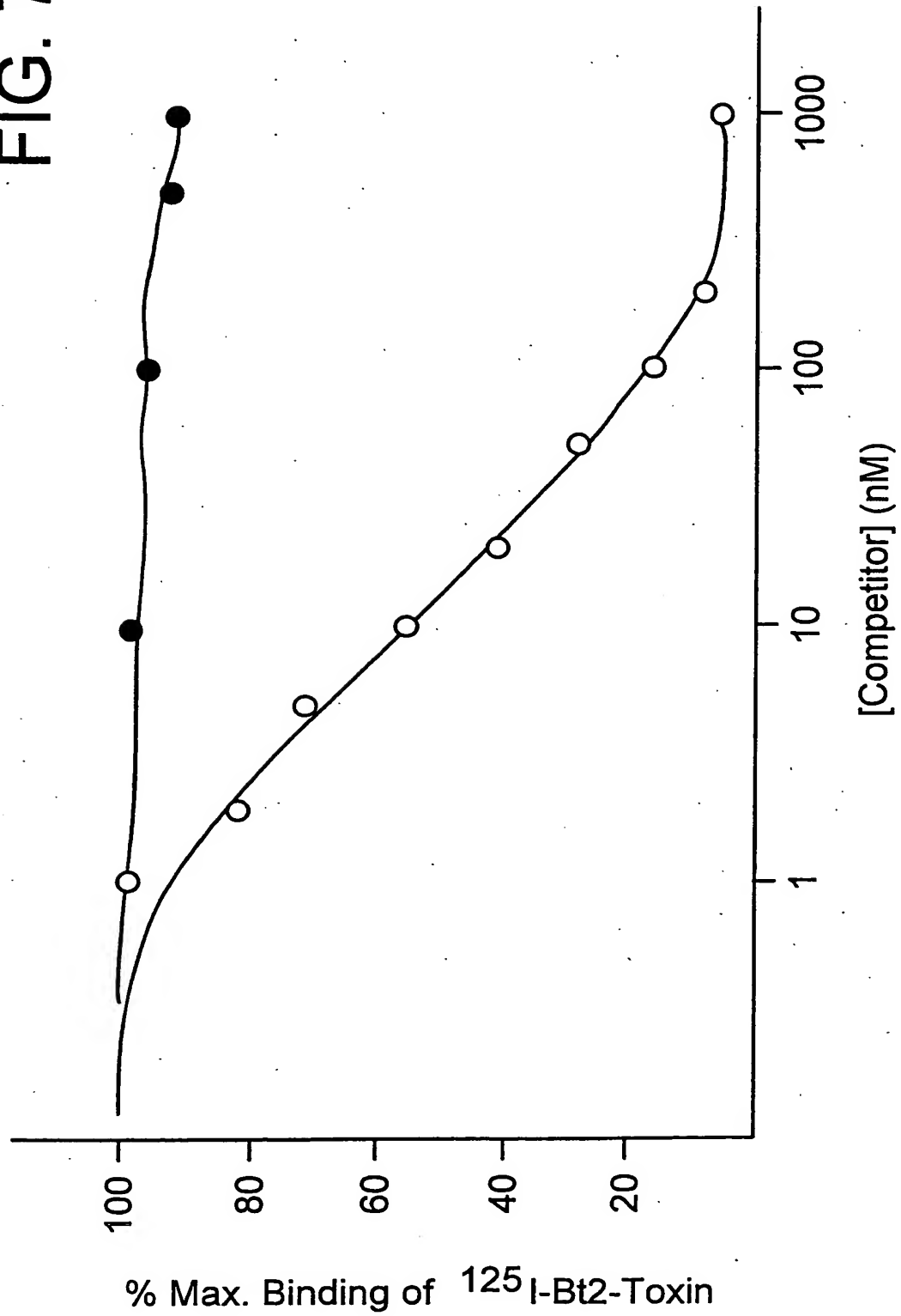


FIG. 8

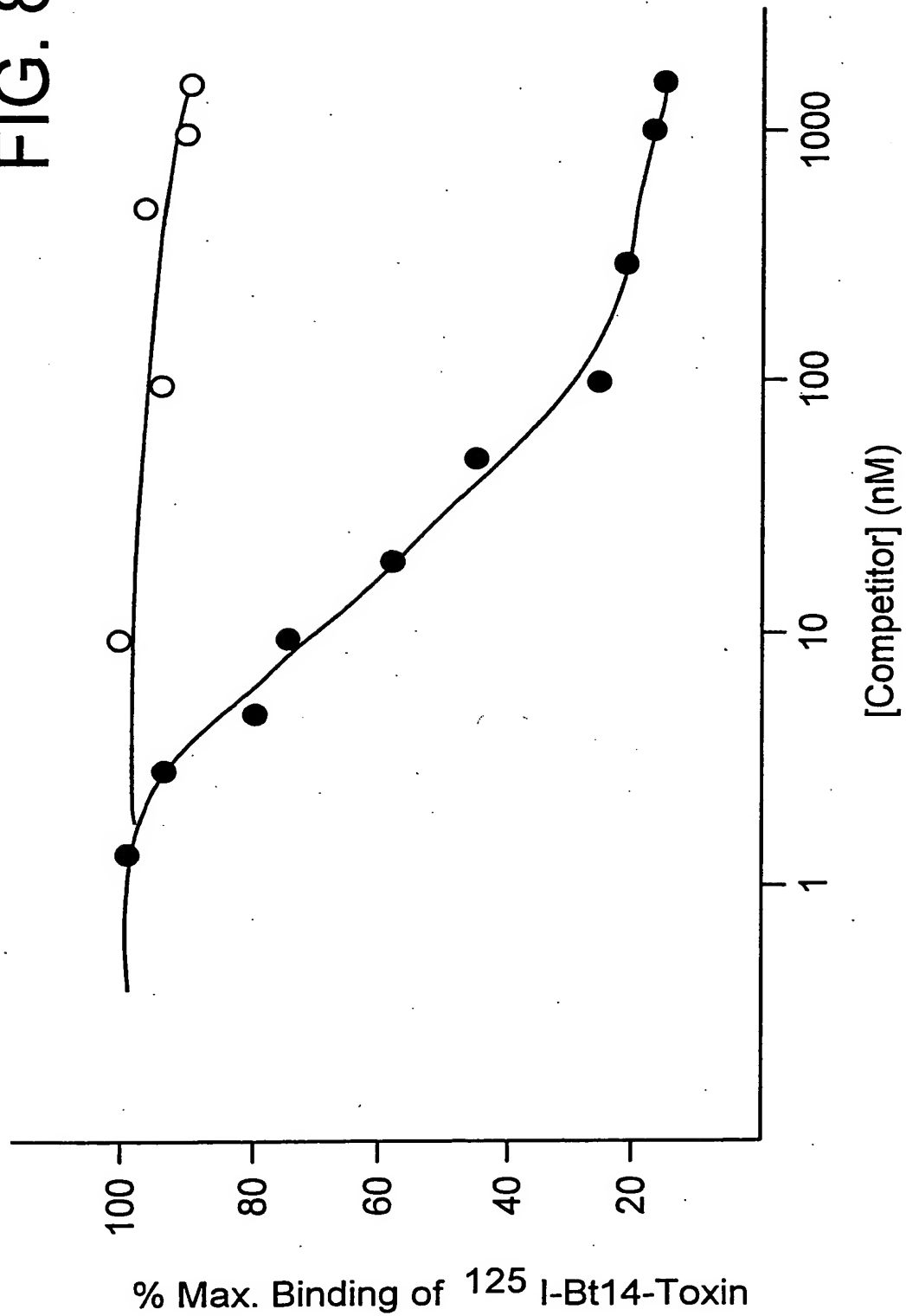


FIG. 9

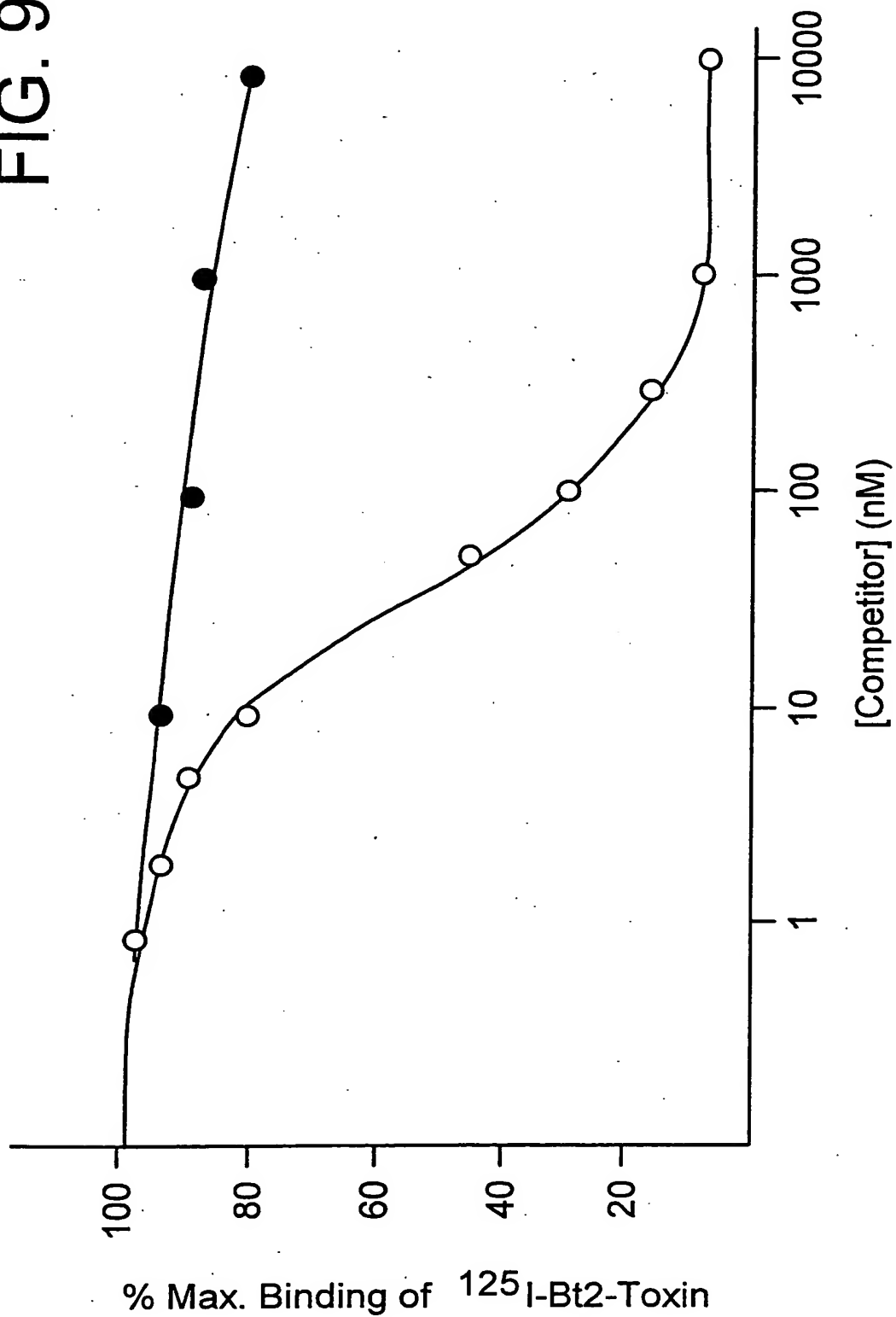


FIG. 10

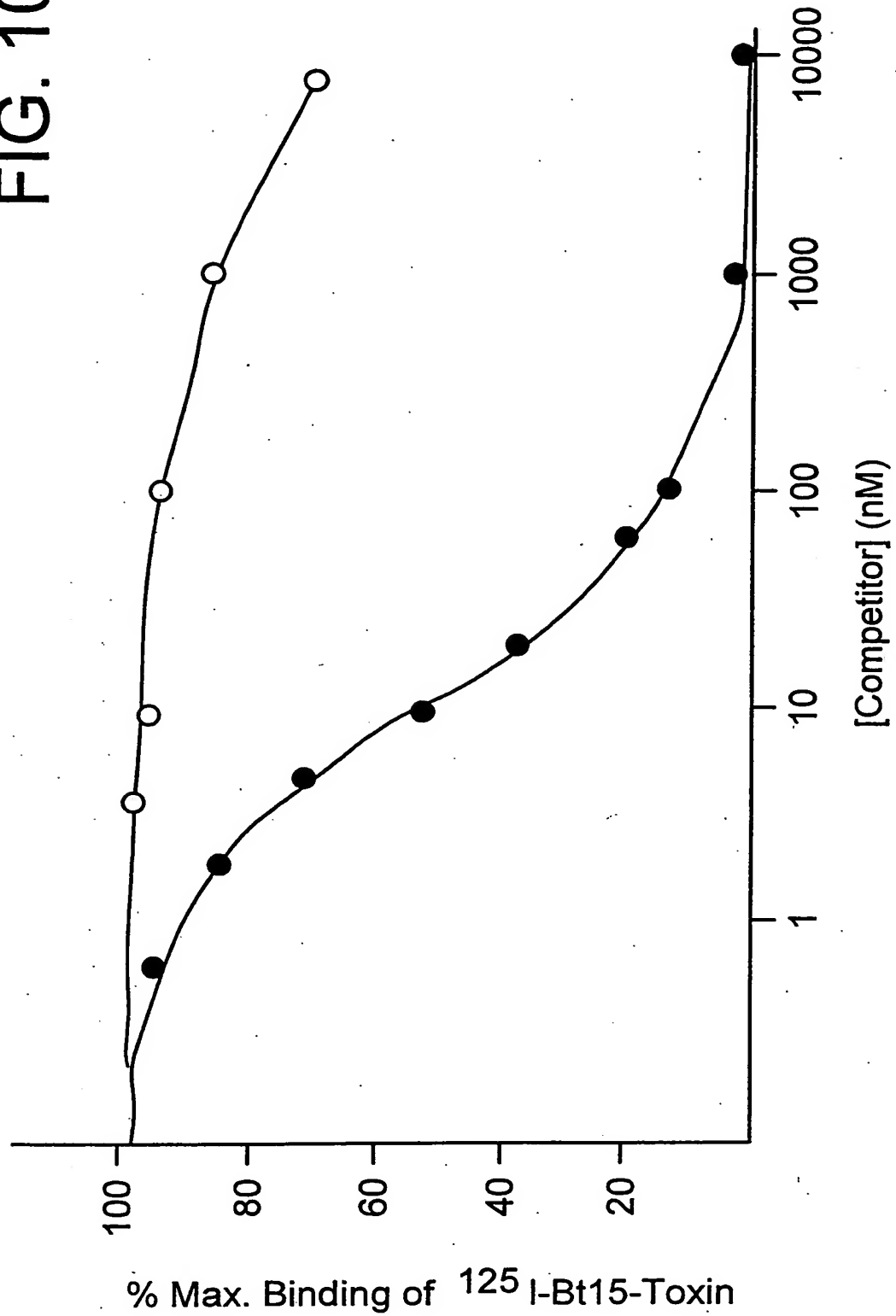


FIG. 11

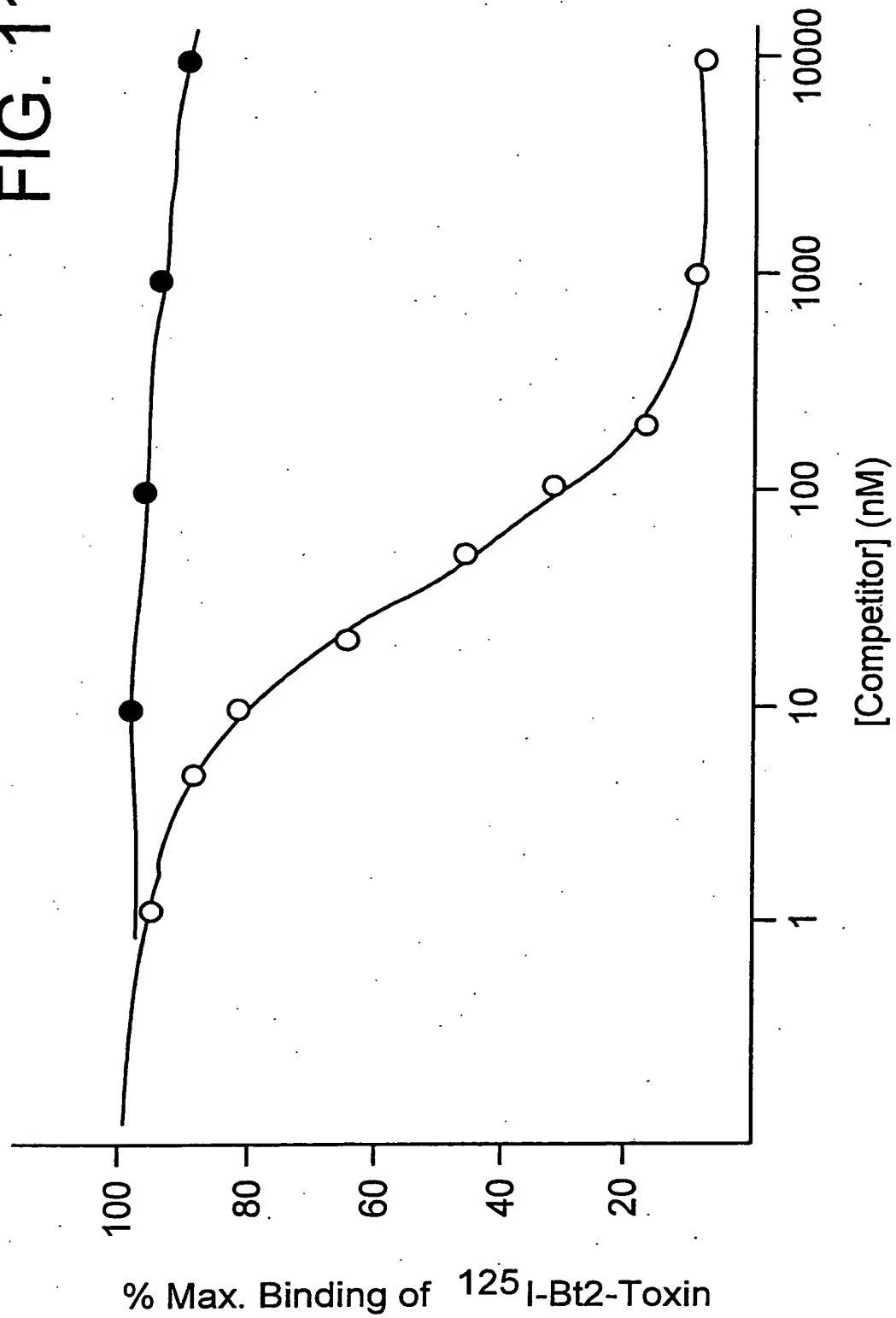


FIG. 12

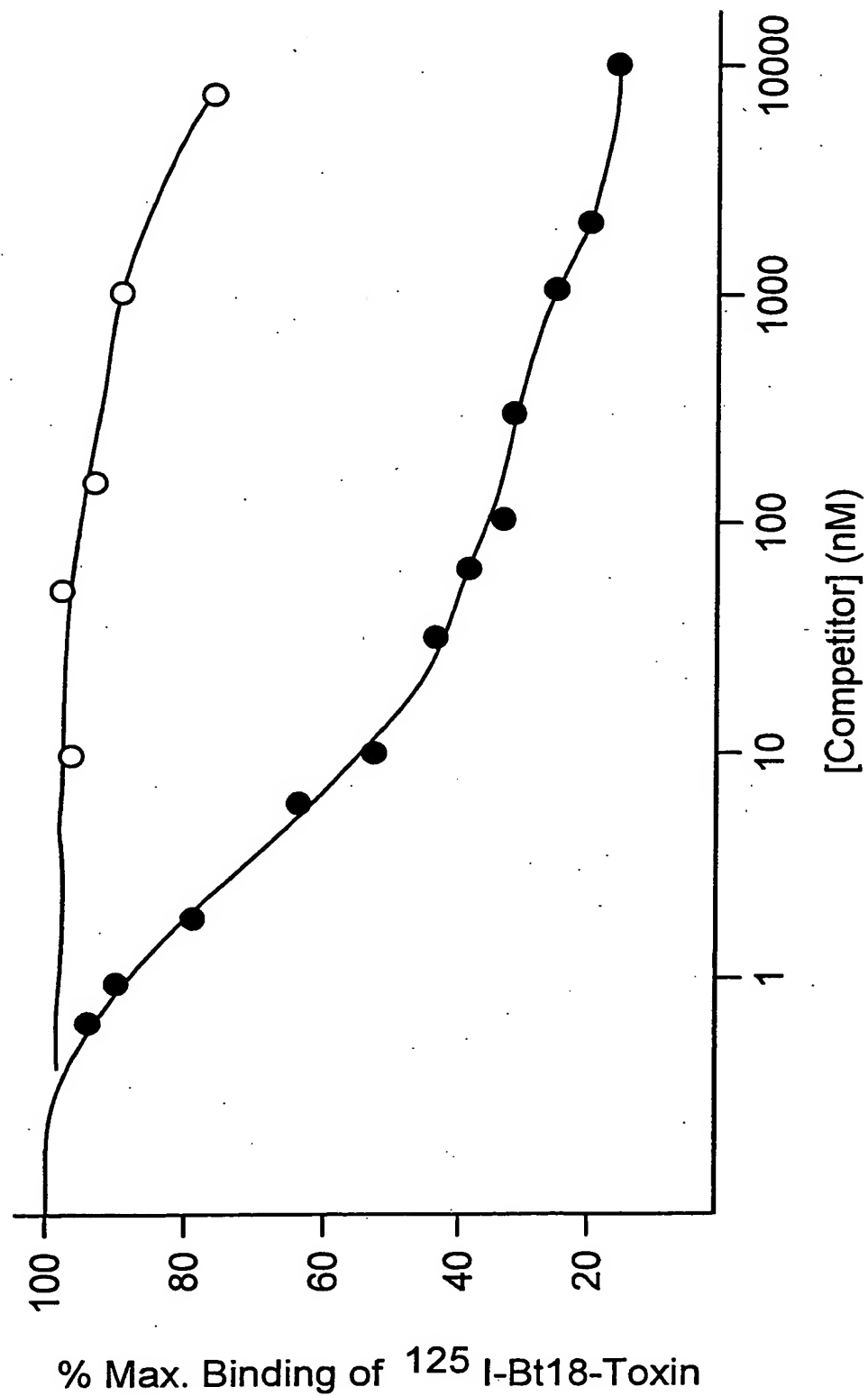


FIG. 13A

| | | | | |
|---|-----|-----|-----|-----|
| 10 | 20 | 30 | 40 | 50 |
| GGATCTGTTT TAATATAAGG GATTTGTGCC CTTCTCGTTA TATTCTTTTA | | | | |
| 60 | 70 | 80 | 90 | 100 |
| TTAGCCCCAA AACTAGTGC AACTAAATAT TTTTATAATT AACTGATTA | | | | |
| 110 | 120 | 130 | 140 | 150 |
| AATACTTTAT TTTTGGGAGT AAGATTTATG CTGAAATGTA ATAAAATTCTG | | | | |
| 160 | 170 | 180 | 190 | 200 |
| TTCCATTTTC TGTATTTTCT CATAAAATGT TTCATATGCT TTAAATTGTA | | | | |
| 210 | 220 | 230 | 240 | 250 |
| GTAAAGAAAA ACAGTACAAA CTTAAAAGGA CTTTAGTAAT TTAATAAAAA | | | | |
| 260 | 269 | 278 | 287 | |
| AAGGGGATAG TTT ATG GAA ATA AAT AAT CAA AAC CAA TGT | | | | |
| MET Glu Ile Asn Asn Gln Asn Gln Cys | | | | |

FIG. 13B

| | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 296 | 305 | 314 | 323 | | | | | | | | | |
| GTG | CCT | TAC | AAT | TGT | TTA | AGT | AAT | CCT | AAG | GAG | ATA | ATA |
| Val | Pro | Tyr | Asn | Cys | Leu | Ser | Asn | Pro | Lys | Glu | Ile | Ile |
| 332 | 341 | 350 | 359 | 368 | | | | | | | | |
| TTA | GGC | GAG | GAA | AGG | CTA | GAA | ACA | GGG | AAT | ACT | GTA | GCA |
| Leu | Gly | Glu | Glu | Arg | Leu | Glu | Thr | Gly | Asn | Thr | Val | Ala |
| 377 | 386 | 395 | 404 | | | | | | | | | |
| GAC | ATT | TCA | TTA | GGG | CTT | ATT | AAT | TTT | CTA | TAT | TCT | AAT |
| Asp | Ile | Ser | Leu | Gly | Leu | Ile | Asn | Phe | Leu | Tyr | Ser | Asn |
| 413 | 422 | 431 | 440 | | | | | | | | | |
| TTT | GTA | CCA | GGA | GGA | GGA | TTT | ATA | GTA | GGT | TTA | CTA | GAA |
| Phe | Val | Pro | Gly | Gly | Gly | Phe | Ile | Val | Gly | Leu | Leu | Glu |
| 449 | 458 | 467 | 476 | 485 | | | | | | | | |
| TTA | ATA | TGG | GGA | TTT | ATA | GGG | CCT | TCG | CAA | TGG | GAT | ATT |
| Leu | Ile | Trp | Gly | Phe | Ile | Gly | Pro | Ser | Gln | Trp | Asp | Ile |
| 494 | 503 | 512 | 521 | | | | | | | | | |
| TTT | TTA | GCT | CAA | ATT | GAG | CAA | TTG | ATT | AGT | CAA | AGA | ATA |
| Phe | Leu | Ala | Gln | Ile | Glu | Gln | Leu | Ile | Ser | Gln | Arg | Ile |

FIG. 13C

| | | | | |
|---|-----|-----|-----|-----|
| 530 | 539 | 548 | 557 | |
| GAA GAA TTT GCT AGG AAT CAG GCA ATT TCA AGA TTG GAG | | | | |
| Glu Glu Phe Ala Arg Asn Gln Ala Ile Ser Arg Leu Glu | | | | |
| 566 | 575 | 584 | 593 | 602 |
| GGG CTA AGC AAT CTT TAT AAG GTC TAT GTT AGA GCG TTT | | | | |
| Gly Leu Ser Asn Leu Tyr Lys Val Tyr Val Arg Ala Phe | | | | |
| 611 | 620 | 629 | 638 | |
| AGC GAC TGG GAG AAA GAT CCT ACT AAT CCT GCT TTA AGG | | | | |
| Ser Asp Trp Glu Lys Asp Pro Thr Asn Pro Ala Leu Arg | | | | |
| 647 | 656 | 665 | 674 | |
| GAA GAA ATG CGT ATA CAA TTT AAT GAC ATG AAT AGT GCT | | | | |
| Glu Glu MET Arg Ile Gln Phe Asn Asp MET Asn Ser Ala | | | | |
| 683 | 692 | 701 | 710 | 719 |
| CTC ATA ACG GCT ATT CCA CTT TTT AGA GTT CAA AAT TAT | | | | |
| Leu Ile Thr Ala Ile Pro Leu Phe Arg Val Gln Asn Tyr | | | | |
| 728 | 737 | 746 | 755 | |
| GAA GTT GCT CTT TTA TCT GTA TAT GTT CAA GCC GCA AAC | | | | |
| Glu Val Ala Leu Leu Ser Val Tyr Val Gln Ala Ala Asn | | | | |

FIG. 13D

| | | | | |
|---|-----|-----|-----|-----|
| 764 | 773 | 782 | 791 | |
| TTA CAT TTA TCT ATT TTA AGG GAT GTT TCA GTT TTC GGA | | | | |
| Leu His Leu Ser Ile Leu Arg Asp Val Ser Val Phe Gly | | | | |
| 800 | 809 | 818 | 827 | 836 |
| GAA AGA TGG GGA TAT GAT ACA GCG ACT ATC AAT AAT CGC | | | | |
| Glu Arg Trp Gly Tyr Asp Thr Ala Thr Ile Asn Asn Arg | | | | |
| 845 | 854 | 863 | 872 | |
| TAT AGT GAT CTG ACT AGC CTT ATT CAT GTT TAT ACT AAC | | | | |
| Tyr Ser Asp Leu Thr Ser Leu Ile His Val Tyr Thr Asn | | | | |
| 881 | 890 | 899 | 908 | |
| CAT TGT GTG GAT ACG TAT AAT CAG GGA TTA AGG CGT TTG | | | | |
| His Cys Val Asp Thr Tyr Asn Gln Gly Leu Arg Arg Leu | | | | |
| 917 | 926 | 935 | 944 | 953 |
| GAA GGT CGT TTT CTT AGC GAT TGG ATT GTA TAT AAT CGT | | | | |
| Glu Gly Arg Phe Leu Ser Asp Trp Ile Val Tyr Asn Arg | | | | |
| 962 | 971 | 980 | 989 | |
| TTC CGG AGA CAA TTG ACA ATT TCA GTA TTA GAT ATT GTT | | | | |
| Phe Arg Arg Gln Leu Thr Ile Ser Val Leu Asp Ile Val | | | | |

FIG. 13E

| | | | | | | | | | | | | |
|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|
| 998 | 1007 | 1016 | 1025 | | | | | | | | | |
| GCG | TTT | TTT | CCA | AAT | TAT | GAT | ATT | AGA | ACA | TAT | CCA | ATT |
| Ala | Phe | Phe | Pro | Asn | Tyr | Asp | Ile | Arg | Thr | Tyr | Pro | Ile |
| 1034 | 1043 | 1052 | 1061 | 1070 | | | | | | | | |
| CAA | ACA | GCT | ACT | CAG | CTA | ACG | AGG | GAA | GTC | TAT | CTG | GAT |
| Gln | Thr | Ala | Thr | Gln | Leu | Thr | Arg | Glu | Val | Tyr | Leu | Asp |
| 1079 | 1088 | 1097 | 1106 | | | | | | | | | |
| TTA | CCT | TTT | ATT | AAT | CAA | AAT | CTT | TCT | CCT | GCA | GCA | AGC |
| Leu | Pro | Phe | Ile | Asn | Glu | Asn | Leu | Ser | Pro | Ala | Ala | Ser |
| 1115 | 1124 | 1133 | 1142 | | | | | | | | | |
| TAT | CCA | ACC | TTT | TCA | GCT | GCT | GAA | AGT | GCT | ATA | ATT | AGA |
| Tyr | Pro | Thr | Phe | Ser | Ala | Ala | Glu | Ser | Ala | Ile | Ile | Arg |
| 1151 | 1160 | 1169 | 1178 | 1187 | | | | | | | | |
| AGT | CCT | CAT | TTA | GTA | GAC | TTT | TTA | AAT | AGC | TTT | ACC | ATT |
| Ser | Pro | His | Leu | Val | Asp | Phe | Leu | Asn | Ser | Phe | Thr | Ile |
| 1196 | 1205 | 1214 | 1223 | | | | | | | | | |
| TAT | ACA | GAT | AGT | CTG | GCA | CGT | TAT | GCA | TAT | TGG | GGA | GGG |
| Tyr | Thr | Asp | Ser | Leu | Ala | Arg | Tyr | Ala | Tyr | Trp | Gly | Gly |

FIG. 13F

| | | | | |
|---|------|------|------|------|
| 1232 | 1241 | 1250 | 1259 | |
| CAC TTG GTA AAT TCT TTC CGC ACA GGA ACC ACT ACT AAT | | | | |
| His Leu Val Asn Ser Phe Arg Thr Gly Thr Thr Thr Asn | | | | |
| 1268 | 1277 | 1286 | 1295 | 1304 |
| TTG ATA AGA TCC CCT TTA TAT GGA AGG GAA GGA AAT ACA | | | | |
| Leu Ile Arg Ser Pro Leu Tyr Gly Arg Glu Gly Asn Thr | | | | |
| | 1313 | 1322 | 1331 | 1340 |
| GAG CGC CCC GTA ACT ATT ACC GCA TCA CCT AGC GTA CCA | | | | |
| Glu Arg Pro Val Thr Ile Thr Ala Ser Pro Ser Val Pro | | | | |
| 1349 | 1358 | 1367 | 1376 | |
| ATA TTT AGA ACA CTT TCA TAT ATT ACA GGC CTT GAC AAT | | | | |
| Ile Phe Arg Thr Leu Ser Tyr Ile Thr Gly Leu Asp Asn | | | | |
| 1385 | 1394 | 1403 | 1412 | 1421 |
| TCA AAT CCT GTA GCT GGA ATC GAG GGA GTG GAA TTC CAA | | | | |
| Ser Asn Pro Val Ala Gly Ile Glu Gly Val Glu Phe Gln | | | | |
| | 1430 | 1439 | 1448 | 1457 |
| AAT ACT ATA AGT AGA AGT ATC TAT CGT AAA AGC GGT CCA | | | | |
| Asn Thr Ile Ser Arg Ser Ile Tyr Arg Lys Ser Gly Pro | | | | |

FIG. 13G

| | | | | | | | | | | | | |
|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|
| 1466 | 1475 | 1484 | 1493 | | | | | | | | | |
| ATA | GAT | TCT | TTT | AGT | GAA | TTA | CCA | CCT | CAA | GAT | GCC | AGC |
| Ile | Asp | Ser | Phe | Ser | Glu | Leu | Pro | Pro | Gln | Asp | Ala | Ser |
| 1502 | | 1511 | | 1520 | | 1529 | | 1538 | | | | |
| GTA | TCT | CCT | GCA | ATT | GGG | TAT | AGT | CAC | CGT | TTA | TGC | CAT |
| Val | Ser | Pro | Ala | Ile | Gly | Tyr | Ser | His | Arg | Leu | Cys | His |
| | 1547 | | 1556 | | 1565 | | 1574 | | | | | |
| GCA | ACA | TTT | TTA | GAA | CGG | ATT | AGT | GGA | CCA | AGA | ATA | GCA |
| Ala | Thr | Phe | Leu | Glu | Arg | Ile | Ser | Gly | Pro | Arg | Ile | Ala |
| 1583 | | 1592 | | 1601 | | 1610 | | | | | | |
| GGC | ACC | GTA | TTT | TCT | TGG | ACA | CAC | CGT | AGT | GCC | AGC | CCT |
| Gly | Thr | Val | Phe | Ser | Trp | Thr | His | Arg | Ser | Ala | Ser | Pro |
| 1619 | | 1628 | | 1637 | | 1646 | | 1655 | | | | |
| ACT | AAT | GAA | GTA | AGT | CCA | TCT | AGA | ATT | ACA | CAA | ATT | CCA |
| Thr | Asn | Glu | Val | Ser | Pro | Ser | Arg | Ile | Thr | Gln | Ile | Pro |
| | 1664 | | 1673 | | 1682 | | 1691 | | | | | |
| TGG | GTA | AAG | GCG | CAT | ACT | CTT | GCA | TCT | GGT | GCC | TCC | GTC |
| Trp | Val | Lys | Ala | His | Thr | Leu | Ala | Ser | Gly | Ala | Ser | Val |

FIG. 13H

| | | | | |
|---|------|------|------|------|
| 1700 | 1709 | 1718 | 1727 | |
| ATT AAA GGT CCT GGA TTT ACA GGT GGA GAT ATT CTG ACT | | | | |
| Ile Lys Gly Pro Gly Phe Thr Gly Gly Asp Ile Leu Thr | | | | |
| 1736 | 1745 | 1754 | 1763 | 1772 |
| AGG AAT AGT ATG GGC GAG CTG GGG ACC TTA CGA GTA ACC | | | | |
| Arg Asn Ser MET Gly Glu Leu Gly Thr Leu Arg Val Thr | | | | |
| 1781 | 1790 | 1799 | 1808 | |
| TTC ACA GGA AGA TTA CCA CAA AGT TAT TAT ATA CGT TTC | | | | |
| Phe Thr Gly Arg Leu Pro Gln Ser Tyr Tyr Ile Arg Phe | | | | |
| 1817 | 1826 | 1835 | 1844 | |
| CGT TAT GCT TCG GTA GCA AAT AGG AGT GGT ACA TTT AGA | | | | |
| Arg Tyr Ala Ser Val Ala Asn Arg Ser Gly Thr Phe Arg | | | | |
| 1853 | 1862 | 1871 | 1880 | 1889 |
| TAT TCA CAG CCA CCT TCG TAT GGA ATT TCA TTT CCA AAA | | | | |
| Tyr Ser Gln Pro Pro Ser Tyr Gly Ile Ser Phe Pro Lys | | | | |
| 1898 | 1907 | 1916 | 1925 | |
| ACT ATG GAC GCA GGT GAA CCA CTA ACA TCT CGT TCG TTC | | | | |
| Thr MET Asp Ala Gly Glu Pro Leu Thr Ser Arg Ser Phe | | | | |

FIG. 13I

| | | | | | | | | | | | | | | | | | |
|--------|-----|-----|-----|------|-----|-----|-----|------|-----|-----|-----|------|--|--|--|------|--|
| 1934 | | | | 1943 | | | | 1952 | | | | 1961 | | | | | |
| GCT | CAT | ACA | ACA | CTC | TTC | ACT | CCA | ATA | ACC | TTT | TCA | CGA | | | | | |
| Ala | His | Thr | Thr | Leu | Phe | Thr | Pro | Ile | Thr | Phe | Ser | Arg | | | | | |
| 1970 | | | | 1979 | | | | 1988 | | | | 1997 | | | | 2006 | |
| GCT | CAA | GAA | GAA | TTT | GAT | CTA | TAC | ATC | CAA | TCG | GGT | GTT | | | | | |
| Ala | Gln | Glu | Glu | Phe | Asp | Leu | Tyr | Ile | Gln | Ser | Gly | Val | | | | | |
| 2015 | | | | 2024 | | | | 2033 | | | | 2042 | | | | | |
| TAT | ATA | GAT | CGA | ATT | GAA | TTT | ATA | CCG | GTT | ACT | GCA | ACA | | | | | |
| Tyr | Ile | Asp | Arg | Ile | Glu | Phe | Ile | Pro | Val | Thr | Ala | Thr | | | | | |
| -----> | | | | | | | | | | | | | | | | | |
| 2051 | | | | 2060 | | | | 2069 | | | | 2078 | | | | | |
| TTT | GAG | GCA | GAA | TAT | GAT | TTA | GAA | AGA | GCG | CAA | AAG | GTG | | | | | |
| Phe | Glu | Ala | Glu | Tyr | Asp | Leu | Glu | Arg | Ala | Gln | Lys | Val | | | | | |
| 2087 | | | | 2096 | | | | 2105 | | | | 2114 | | | | 2123 | |
| GTG | AAT | GCC | CTG | TTT | ACG | TCT | ACA | AAC | CAA | CTA | GGG | CTA | | | | | |
| Val | Asn | Ala | Leu | Phe | Thr | Ser | Thr | Asn | Gln | Leu | Gly | Leu | | | | | |
| 2132 | | | | 2141 | | | | 2150 | | | | 2159 | | | | | |
| AAA | ACA | GAT | GTG | ACG | GAT | TAT | CAT | ATT | GAT | CAG | GTA | TCC | | | | | |
| Lys | Thr | Asp | Val | Thr | Asp | Tyr | His | Ile | Asp | Gln | Val | Ser | | | | | |

FIG. 13J

| | | | | | | | | | | | | |
|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|
| 2168 | 2177 | 2186 | 2195 | | | | | | | | | |
| AAT | CTA | GTT | GCG | TGT | TTA | TCG | GAT | GAA | TTT | TGT | CTG | GAT |
| Asn | Leu | Val | Ala | Cys | Leu | Ser | Asp | Glu | Phe | Cys | Leu | Asp |
| 2204 | 2213 | 2222 | 2231 | 2240 | | | | | | | | |
| GAA | AAG | AGA | GAA | TTG | TCC | GAG | AAA | GTT | AAA | CAT | GCA | AAG |
| Glu | Lys | Arg | Glu | Leu | Ser | Glu | Lys | Val | Lys | His | Ala | Lys |
| 2249 | 2258 | 2267 | 2276 | | | | | | | | | |
| CGA | CTC | AGT | GAT | GAG | CGG | AAT | TTA | CTT | CAA | GAT | CCA | AAC |
| Arg | Leu | Ser | Asp | Glu | Arg | Asn | Leu | Leu | Gln | Asp | Pro | Asn |
| 2285 | 2294 | 2303 | 2312 | | | | | | | | | |
| TTC | AGA | GGG | ATC | AAT | AGG | CAA | CCA | GAC | CGT | GGC | TGG | AGA |
| Phe | Arg | Gly | Ile | Asn | Arg | Gln | Pro | Asp | Arg | Gly | Trp | Arg |
| 2321 | 2330 | 2339 | 2348 | 2357 | | | | | | | | |
| GGA | AGT | ACG | GAT | ATT | ACT | ATC | CAA | GGA | GGA | GAT | GAC | GTA |
| Gly | Ser | Thr | Asp | Ile | Thr | Ile | Gln | Gly | Gly | Asp | Asp | Val |
| 2366 | 2375 | 2384 | 2393 | | | | | | | | | |
| TTC | AAA | GAG | AAT | TAC | GTT | ACG | CTA | CCG | GGT | ACC | TTT | GAT |
| Phe | Lys | Glu | Asn | Tyr | Val | Thr | Leu | Pro | Gly | Thr | Phe | Asp |

FIG. 13K

| | | | | | | | | | | | | |
|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|
| 2402 | 2411 | 2420 | 2429 | | | | | | | | | |
| GAG | TGC | TAT | CCA | ACG | TAT | TTA | TAT | CAA | AAA | ATA | GAT | GAG |
| Glu | Cys | Tyr | Pro | Thr | Tyr | Leu | Tyr | Gln | Lys | Ile | Asp | Glu |
| 2438 | 2447 | 2456 | 2465 | 2474 | | | | | | | | |
| TCG | AAA | TTA | AAA | GCC | TAT | ACC | CGT | TAT | CAA | TTA | AGA | GGG |
| Ser | Lys | Leu | Lys | Ala | Tyr | Thr | Arg | Tyr | Gln | Leu | Arg | Gly |
| 2483 | 2492 | 2501 | 2510 | | | | | | | | | |
| TAT | ATC | GAA | GAT | AGT | CAA | GAC | TTA | GAA | ATC | TAT | TTA | ATT |
| Tyr | Ile | Glu | Asp | Ser | Gln | Asp | Leu | Glu | Ile | Tyr | Leu | Ile |
| 2519 | 2528 | 2537 | 2546 | | | | | | | | | |
| CGT | TAC | AAT | GCA | AAA | CAC | GAA | ATA | GTA | AAT | GTA | CCA | GGT |
| Arg | Tyr | Asn | Ala | Lys | His | Glu | Ile | Val | Asn | Val | Pro | Gly |
| 2555 | 2564 | 2573 | 2582 | 2591 | | | | | | | | |
| ACA | GGA | AGT | TTA | TGG | CCT | CTT | TCT | GTA | GAA | AAT | CAA | ATT |
| Thr | Gly | Ser | Leu | Trp | Pro | Leu | Ser | Val | Glu | Asn | Gln | Ile |
| 2600 | 2609 | 2618 | 2627 | | | | | | | | | |
| GGA | CCT | TGT | GGA | GAA | CCG | AAT | CGA | TGC | GCG | CCA | CAC | CTT |
| Gly | Pro | Cys | Gly | Glu | Pro | Asn | Arg | Cys | Ala | Pro | His | Leu |

FIG. 13L

| | | | | |
|---|------|------|------|------|
| 2636 | 2645 | 2654 | 2663 | |
| GAA TGG AAT CCT GAT TTA CAC TGT TCC TGC AGA GAC GGG | | | | |
| Glu Trp Asn Pro Asp Leu His Cys Ser Cys Arg Asp Gly | | | | |
| 2672 | 2681 | 2690 | 2699 | 2708 |
| GAA AAA TGT GCA CAT CAT TCT CAT CAT TTC TCT TTG GAC | | | | |
| Glu Lys Cys Ala His His Ser His His Phe Ser Leu Asp | | | | |
| 2717 | 2726 | 2735 | 2744 | |
| ATT GAT GTT GGA TGT ACA GAC TTA AAT GAG GAC TTA GGT | | | | |
| Ile Asp Val Gly Cys Thr Asp Leu Asn Glu Asp Leu Gly | | | | |
| 2753 | 2762 | 2771 | 2780 | |
| GTA TGG GTG ATA TTC AAG ATT AAG ACG CAA GAT GGC CAC | | | | |
| Val Trp Val Ile Phe Lys Ile Lys Thr Gln Asp Gly His | | | | |
| 2789 | 2798 | 2807 | 2816 | 2825 |
| GCA CGA CTA GGG AAT CTA GAG TTT CTC GAA GAG AAA CCA | | | | |
| Ala Arg Leu Gly Asn Leu Glu Phe Leu Glu Glu Lys Pro | | | | |
| 2834 | 2843 | 2852 | 2861 | |
| TTA TTA GGA GAA GCA CTA GCT CGT GTG AAA AGA GCG GAG | | | | |
| Leu Leu Gly Glu Ala Leu Ala Arg Val Lys Arg Ala Glu | | | | |

FIG. 13M

| | | | | | | | | | | | | |
|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|
| 2870 | 2879 | 2888 | 2897 | | | | | | | | | |
| AAA | AAA | TGG | AGA | GAC | AAA | CGC | GAA | ACA | TTA | CAA | TTG | GAA |
| Lys | Lys | Trp | Arg | Asp | Lys | Arg | Glu | Thr | Leu | Gln | Leu | Glu |
| 2906 | 2915 | 2924 | 2933 | 2942 | | | | | | | | |
| ACA | ACT | ATC | GTT | TAT | AAA | GAG | GCA | AAA | GAA | TCT | GTA | GAT |
| Thr | Thr | Ile | Val | Tyr | Lys | Glu | Ala | Lys | Glu | Ser | Val | Asp |
| 2951 | 2960 | 2969 | 2978 | | | | | | | | | |
| GCT | TTA | TTT | GTA | AAC | TCT | CAA | TAT | GAT | AGA | TTA | CAA | GCG |
| Ala | Leu | Phe | Val | Asn | Ser | Gln | Tyr | Asp | Arg | Leu | Gln | Ala |
| 2987 | 2996 | 3005 | 3014 | | | | | | | | | |
| GAT | ACG | AAC | ATC | GCG | ATG | ATT | CAT | GCG | GCA | GAT | AAA | CGC |
| Asp | Thr | Ash | Ile | Ala | MET | Ile | His | Ala | Ala | Asp | Lys | Arg |
| 3023 | 3032 | 3041 | 3050 | 3059 | | | | | | | | |
| GTT | CAT | AGA | ATT | CGA | GAA | GCG | TAT | CTG | CCG | GAG | CTG | TCT |
| Val | His | Arg | Ile | Arg | Glu | Ala | Tyr | Leu | Pro | Glu | Leu | Ser |
| 3068 | 3077 | 3086 | 3095 | | | | | | | | | |
| GTG | ATT | CCG | GGT | GTC | AAT | GCG | GCT | ATT | TTT | GAA | GAA | TTA |
| Val | Ile | Pro | Gly | Val | Asn | Ala | Ala | Ile | Phe | Glu | Glu | Leu |

FIG. 13N

| | | | | |
|---|------|------|------|------|
| 3104 | 3113 | 3122 | 3131 | |
| GAA GAG CGT ATT TTC ACT GCA TTT TCC CTA TAT GAT GCG | | | | |
| Glu Glu Arg Ile Phe Thr Ala Phe Ser Leu Tyr Asp Ala | | | | |
| 3140 | 3149 | 3158 | 3167 | 3176 |
| AGA AAT ATT ATT AAA AAT GGC GAT TTC AAT AAT GGC TTA | | | | |
| Arg Asn Ile Ile Lys Asn Gly Asp Phe Asn Asn Gly Leu | | | | |
| 3185 | 3194 | 3203 | 3212 | |
| TTA TGC TGG AAC GTG AAA GGG CAT GTA GAG GTA GAA GAA | | | | |
| Leu Cys Trp Asn Val Lys Gly His Val Glu Val Glu Glu | | | | |
| 3221 | 3230 | 3239 | 3248 | |
| CAA AAC AAT CAC CGT TCA GTC CTG GTT ATC CCA GAA TGG | | | | |
| Gln Asn Asn His Arg Ser Val Leu Val Ile Pro Glu Trp | | | | |
| 3257 | 3266 | 3275 | 3284 | 3293 |
| GAG GCA GAA GTG TCA CAA GAG GTT CGT GTC TGT CCA GGT | | | | |
| Glu Ala Glu Val Ser Gln Glu Val Arg Val Cys Pro Gly | | | | |
| 3302 | 3311 | 3320 | 3329 | |
| CGT GGC TAT ATC CTT CGT GTT ACA GCG TAC AAA GAG GGA | | | | |
| Arg Gly Tyr Ile Leu Arg Val Thr Ala Tyr Lys Glu Gly | | | | |

FIG. 13P

| | | | | | | | | | | | | |
|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|
| 3338 | 3347 | 3356 | 3365 | | | | | | | | | |
| TAT | GGA | GAA | GGT | TGC | GTA | ACG | ATC | CAT | GAG | ATC | GAG | AAC |
| Tyr | Gly | Glu | Gly | Cys | Val | Thr | Ile | His | Glu | Ile | Glu | Asn |
| 3374 | 3383 | 3392 | 3401 | 3410 | | | | | | | | |
| AAT | ACA | GAC | GAA | CTG | AAA | TTC | AAC | AAC | TGT | GTA | GAA | GAG |
| Asn | Thr | Asp | Glu | Leu | Lys | Phe | Asn | Asn | Cys | Val | Glu | Glu |
| 3419 | 3428 | 3437 | 3446 | | | | | | | | | |
| GAA | GTA | TAT | CCA | AAC | AAC | ACG | GTA | ACG | TGT | ATT | AAT | TAT |
| Glu | Val | Tyr | Pro | Asn | Asn | Thr | Val | Thr | Cys | Ile | Asn | Tyr |
| 3455 | 3464 | 3473 | 3482 | | | | | | | | | |
| ACT | GCG | ACT | CAA | GAA | GAA | TAT | GAG | GGT | ACG | TAC | ACT | TCT |
| Thr | Ala | Thr | Gln | Glu | Glu | Tyr | Glu | Gly | Thr | Tyr | Thr | Ser |
| 3491 | 3500 | 3509 | 3518 | 3527 | | | | | | | | |
| CGT | AAT | CGA | GGA | TAT | GAC | GAA | GCC | TAT | GGT | AAT | AAC | CCT |
| Arg | Asn | Arg | Gly | Tyr | Asp | Glu | Ala | Tyr | Gly | Asn | Asn | Pro |
| 3536 | 3545 | 3554 | 3563 | | | | | | | | | |
| TCC | GTA | CCA | GCT | GAT | TAT | GCG | TCA | GTC | TAT | GAA | GAA | AAA |
| Ser | Val | Pro | Ala | Asp | Tyr | Ala | Ser | Val | Tyr | Glu | Glu | Lys |

FIG. 13Q

| | | | | | | | | | | | | |
|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|
| 3572 | 3581 | 3590 | 3599 | | | | | | | | | |
| TCG | TAT | ACA | GAT | AGA | CGA | AGA | GAG | AAT | CCT | TGT | GAA | TCT |
| Ser | Tyr | Thr | Asp | Arg | Arg | Arg | Glu | Asn | Pro | Cys | Glu | Ser |
| 3608 | 3617 | 3626 | 3635 | 3644 | | | | | | | | |
| AAC | AGA | GGA | TAT | GGA | GAT | TAC | ACA | CCA | CTA | CCA | GCT | GGT |
| Asn | Arg | Gly | Tyr | Gly | Asp | Tyr | Thr | Pro | Leu | Pro | Ala | Gly |
| 3653 | 3662 | 3671 | 3680 | | | | | | | | | |
| TAT | GTA | ACA | AAG | GAA | TTA | GAG | TAC | TTC | CCA | GAG | ACC | GAT |
| Tyr | Val | Thr | Lys | Glu | Leu | Glu | Tyr | Phe | Pro | Glu | Thr | Asp |
| 3689 | 3698 | 3707 | 3716 | | | | | | | | | |
| AAG | GTA | TGG | ATT | GAG | ATT | GGA | GAA | ACA | GAA | GGA | ACA | TTC |
| Lys | Val | Trp | Ile | Glu | Ile | Gly | Glu | Thr | Glu | Gly | Thr | Phe |
| 3725 | 3734 | 3743 | 3752 | 3761 | | | | | | | | |
| ATC | GTG | GAC | AGC | GTG | GAA | TTA | CTC | CTT | ATG | GAG | GAA | TAG |
| Ile | Val | Asp | Ser | Val | Glu | Leu | Leu | Leu | MET | Glu | Glu | • |

FIG. 13R

3771 3781 3791 3801 3811
GACCATCCGAGTATAGCAGT TTAATAAATA TTAATTAAAA TAGTAGTCTA

3821 3831 3841 3851 3861
ACTTCCGTTC CAATTAAATA AGTAAATTAC AGTTGTAAAA AAAAACGAAC

3871 3881 3891 3901
ATTACTCTTC AAAGAGCGAT GTCCGTTTTT TATATGGTGT GT

FIG. 14A

| | | | | |
|--|-----|-------|-----|---------|
| 10 | 20 | 30 | 40 | 50 |
| AATAGAATCT CAAATCTCGA TGA CTGCTTA GTCTTTTAA TACTGTCTAC | | | | |
| 60 | 70 | 80 | 90 | 100 |
| TTGACAGGGGTAGGAACATA ATCGGTCAAT TTAAATATG GGGCATATAT | | | | |
| 110 | 120 | 130 | 140 | 150 |
| TGATATTTTA TAAATTTGT TACGTTTTTT GTATTTTTTC ATAAGATGTG | | | | |
| 160 | 170 | 180 | 190 | 200 |
| TCATATGTAT TAAATCGTGG TAATGAAAAA CAGTATCAAA CTATCAGAAC | | | | |
| 210 | 220 | 230 | 239 | |
| TTTGGTAGTT TAATAAAAAA ACGGAGGTAT TTT ATG GAG GAA | | | | |
| | | ----- | MET | Glu Glu |
| 248 | 257 | 266 | 275 | |
| AAT AAT CAA AAT CAA TGC ATA CCT TAC AAT TGT TTA AGT | | | | |
| Asn Asn Gln Asn Gln Cys Ile Pro Tyr Asn Cys Leu Ser | | | | |
| 284 | 293 | 302 | 311 | 320 |
| AAT CCT GAA GAA GTA CTT TTG GAT GGA GAA CGG ATA TCA | | | | |
| Asn Pro Glu Glu Val Leu Leu Asp Gly Glu Arg Ile Ser | | | | |

FIG. 14B

| | | | | |
|---|-----|-----|-----|-----|
| 329 | 338 | 347 | 356 | |
| ACT GGT AAT TCA TCA ATT GAT ATT TCT CTG TCA CTT GTT | | | | |
| Thr Gly Asn Ser Ser Ile Asp Ile Ser Leu Ser Leu Val | | | | |
| 365 | 374 | 383 | 392 | |
| CAG TTT ATG GTA TCT AAC TTT GTA CCA GGG GGA GGA TTT | | | | |
| Gln Phe Leu Val Ser Asn Phe Val Pro Gly Gly Gly Phe | | | | |
| 401 | 410 | 419 | 428 | 437 |
| TTA GTT GGA TTA ATA GAT TTT GTA TGG GGA ATA GTT GGC | | | | |
| Leu Val Gly Leu Ile Asp Phe Val Trp Gly Ile Val Gly | | | | |
| 446 | 455 | 464 | 473 | |
| CCT TCT CAA TGG GAT GCA TTT CTA GTA CAA ATT GAA CAA | | | | |
| Pro Ser Gln Trp Asp Ala Phe Leu Val Gln Ile Glu Gln | | | | |
| 482 | 491 | 500 | 509 | |
| TTA ATT AAT GAA AGA ATA GCT GAA TTT GCT AGG AAT GCT | | | | |
| Leu Ile Asn Glu Arg Ile Ala Glu Phe Ala Arg Asn Ala | | | | |
| 518 | 527 | 536 | 545 | 554 |
| GCT ATT GCT AAT TTA GAA GGA TTA GGA AAC AAT TTA AAT | | | | |
| Ala Ile Ala Asn Leu Glu Gly Leu Gly Asn Asn Phe Asn | | | | |

FIG. 14C

| | | | | |
|---|-----|-----|-----|-----|
| 563 | 572 | 581 | 590 | |
| ATA TAT GTG GAA GCA TTT AAA GAA TGG GAA GAA GAT CCT | | | | |
| Ile Tyr Val Glu Ala Phe Lys Glu Trp Glu Glu Asp Pro | | | | |
| 599 | 608 | 617 | 626 | |
| AAT AAT CCA GAA ACC AGG ACC AGA GTA ATT GAT CGC TTT | | | | |
| Asn Asn Pro Glu Thr Arg Thr Arg Val Ile Asp Arg Phe | | | | |
| 635 | 644 | 653 | 662 | 671 |
| CGT ATA CTT GAT GGG CTA CTT GAA AGG GAC ATT CCT TCG | | | | |
| Arg Ile Leu Asp Gly Leu Leu Glu Arg Asp Ile Pro Ser | | | | |
| 680 | 689 | 698 | 707 | |
| TTT CGA ATT TCT GGA TTT GAA GTA CCC CTT TTA TCC GTT | | | | |
| Phe Arg Ile Ser Gly Phe Glu Val Pro Leu Leu Ser Val | | | | |
| 716 | 725 | 734 | 743 | |
| TAT GCT CAA GCG GCC AAT CTG CAT CTA GCT ATA TTA AGA | | | | |
| Tyr Ala Gln Ala Ala Asn Leu His Leu Ala Ile Leu Arg | | | | |
| 752 | 761 | 770 | 779 | 788 |
| GAT TCT GTA ATT TTT GGA GAA AGA TGG GGA TTG ACA ACG | | | | |
| Asp Ser Val Ile Phe Gly Glu Arg Trp Gly Leu Thr Thr | | | | |

FIG. 14D

| | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|------|-----|------|-----|------|-----|-----|-----|
| | 797 | | 806 | | 815 | | 824 | | | | | |
| ATA | AAT | GTC | AAT | GAA | AAC | TAT | AAT | AGA | CTA | ATT | AGG | CAT |
| Ile | Asn | Val | Asn | Glu | Asn | Tyr | Asn | Arg | Leu | Ile | Arg | His |
| | 833 | | 842 | | 851 | | 860 | | | | | |
| ATT | GAT | GAA | TAT | GCT | GAT | CAC | TGT | GCA | AAT | ACG | TAT | AAT |
| Ile | Asp | Glu | Tyr | Ala | Asp | His | Cys | Ala | Asn | Thr | Tyr | Asn |
| | 869 | | 878 | | 887 | | 896 | | 905 | | | |
| CGG | GGA | TTA | AAT | AAT | TTA | CCG | AAA | TCT | ACG | TAT | CAA | GAT |
| Arg | Gly | Leu | Asn | Asn | Leu | Pro | Lys | Ser | Thr | Tyr | Gln | Asp |
| | 914 | | 923 | | 932 | | 941 | | | | | |
| TGG | ATA | ACA | TAT | AAT | CGA | TTA | CGG | AGA | GAC | TTA | ACA | TTG |
| Trp | Ile | Thr | Tyr | Asn | Arg | Leu | Arg | Arg | Asp | Leu | Thr | Leu |
| | 950 | | 959 | | 968 | | 977 | | | | | |
| ACT | GTA | TTA | GAT | ATC | GCC | GCT | TTC | TTT | CCA | AAC | TAT | GAC |
| Thr | Val | Leu | Asp | Ile | Ala | Ala | Phe | Phe | Pro | Asn | Tyr | Asp |
| | 986 | | 995 | | 1004 | | 1013 | | 1022 | | | |
| AAT | AGG | AGA | TAT | CCA | ATT | CAG | CCA | GTT | GGT | CAA | CTA | ACA |
| Asn | Arg | Arg | Tyr | Pro | Ile | Gln | Pro | Val | Gly | Gln | Leu | Thr |

FIG. 14E

| | | | | | | | | | | | | |
|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|
| 1031 | 1040 | 1049 | 1058 | | | | | | | | | |
| AGG | GAA | GTT | TAT | ACG | GAC | CCA | TTA | ATT | AAT | TTT | AAT | CCA |
| Arg | Glu | Val | Tyr | Thr | Asp | Pro | Leu | Ile | Asn | Phe | Asn | Pro |
| 1067 | 1076 | 1085 | 1094 | | | | | | | | | |
| CAG | TTA | CAG | TCT | GTA | GCT | CAA | TTA | CCT | ACT | TTT | AAC | GTT |
| Gln | Leu | Gln | Ser | Val | Ala | Gln | Leu | Pro | Thr | Phe | Asn | Val |
| 1103 | 1112 | 1121 | 1130 | 1139 | | | | | | | | |
| ATG | GAG | AGC | AGC | GCA | ATT | AGA | AAT | CCT | CAT | TTA | TTT | GAT |
| MET | Glu | Ser | Ser | Ala | Ile | Arg | Asn | Pro | His | Leu | Phe | Asp |
| 1148 | 1157 | 1166 | 1175 | | | | | | | | | |
| ATA | TTG | AAT | AAT | CTT | ACA | ATC | TTT | ACG | GAT | TGG | TTT | AGT |
| Ile | Leu | Asn | Asn | Leu | Thr | Ile | Phe | Thr | Asp | Trp | Phe | Ser |
| 1184 | 1193 | 1202 | 1211 | | | | | | | | | |
| GTT | GGA | CGC | AAT | TTT | TAT | TGG | GGA | GGA | CAT | CGA | GTA | ATA |
| Val | Gly | Arg | Asn | Phe | Tyr | Trp | Gly | Gly | His | Arg | Val | Ile |
| 1220 | 1229 | 1238 | 1247 | 1256 | | | | | | | | |
| TCT | AGC | CTT | ATA | GGA | GGT | GGT | AAC | ATA | ACA | TCT | CCT | ATA |
| Ser | Ser | Leu | Ile | Gly | Gly | Gly | Asn | Ile | Thr | Ser | Pro | Ile |

FIG. 14F

| | | | | | | | | | | | | |
|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|
| 1265 | 1274 | 1283 | 1292 | | | | | | | | | |
| TAT | GGA | AGA | GAG | GCG | AAC | CAG | GAG | CCT | CCA | AGA | TCC | TTT |
| Tyr | Gly | Arg | Glu | Ala | Asn | Gln | Glu | Pro | Pro | Arg | Ser | Phe |
| 1301 | 1310 | 1319 | 1328 | | | | | | | | | |
| ACT | TTT | AAT | GGA | CCG | GTA | TTT | AGG | ACT | TTA | TCA | AAT | CCT |
| Thr | Phe | Asn | Gly | Pro | Val | Phe | Arg | Thr | Leu | Ser | Asn | Pro |
| 1337 | 1346 | 1355 | 1364 | 1373 | | | | | | | | |
| ACT | TTA | CGA | TTA | TTA | CAG | CAA | CCT | TGG | CCA | GCG | CCA | CCA |
| Thr | Leu | Arg | Leu | Leu | Gln | Gln | Pro | Trp | Pro | Ala | Pro | Pro |
| 1382 | 1391 | 1400 | 1409 | | | | | | | | | |
| TTT | AAT | TTA | CGT | GGT | GTT | GAA | GGA | GTA | GAA | TTT | TCT | ACA |
| Phe | Ash | Leu | Arg | Gly | Val | Glu | Gly | Val | Glu | Phe | Ser | Thr |
| 1418 | 1427 | 1436 | 1445 | | | | | | | | | |
| CCT | ACA | AAT | AGC | TTT | ACG | TAT | CGA | GGA | AGA | GGT | ACG | GTT |
| Pro | Thr | Asn | Ser | Phe | Thr | Tyr | Arg | Gly | Arg | Gly | Thr | Val |
| 1454 | 1463 | 1472 | 1481 | 1490 | | | | | | | | |
| GAT | TCT | TTA | ACT | GAA | TTA | CCG | CCT | GAG | GAT | AAT | AGT | GTG |
| Asp | Ser | Leu | Thr | Glu | Leu | Pro | Pro | Glu | Asp | Asn | Ser | Val |

FIG. 14G

| | | | | |
|---|------|------|------|------|
| 1499 | 1508 | 1517 | 1526 | |
| CCA CCT CGC GAA GGA TAT AGT CAT CGT TTA TGT CAT GCA | | | | |
| Pro Pro Arg Glu Gly Tyr Ser His Arg Leu Cys His Ala | | | | |
| 1535 | 1544 | 1553 | 1562 | |
| ACT TTT GTT CAA AGA TCT GGA ACA CCT TTT TTA ACA ACT | | | | |
| Thr Phe Val Gln Arg Ser Gly Thr Pro Phe Leu Thr Thr | | | | |
| 1571 | 1580 | 1589 | 1598 | 1607 |
| GGT GTA GTA TTT TCT TGG ACG CAT CGT AGT GCA ACT CTT | | | | |
| Gly Val Val Phe Ser Trp Thr His Arg Ser Ala Thr Leu | | | | |
| 1616 | 1625 | 1634 | 1643 | |
| ACA AAT ACA ATT GAT CCA GAG AGA ATT AAT CAA ATA CCT | | | | |
| Thr Asn Thr Ile Asp Pro Glu Arg Ile Asn Gln Ile Pro | | | | |
| 1652 | 1661 | 1670 | 1679 | |
| TTA GTG AAA GGA TTT AGA GTT TGG GGG GGC ACC TCT GTC | | | | |
| Leu Val Lys Gly Phe Arg Val Trp Gly Gly Thr Ser Val | | | | |
| 1688 | 1697 | 1706 | 1715 | 1724 |
| ATT ACA GGA CCA GGA TTT ACA GGA GGG GAT ATC CTT CGA | | | | |
| Ile Thr Gly Pro Gly Phe Thr Gly Gly Asp Ile Leu Arg | | | | |

FIG. 14H

| | | | | |
|---|------|------|------|------|
| 1733 | 1742 | 1751 | 1760 | |
| AGA AAT ACC TTT GGT GAT TTT GTA TCT CTA CAA GTC AAT | | | | |
| Arg Asn Thr Phe Gly Asp Phe Val Ser Leu Gln Val Asn | | | | |
| 1769 | 1778 | 1787 | 1796 | |
| ATT AAT TCA CCA ATT ACC CAA AGA TAC CGT TTA AGA TTT | | | | |
| Ile Asn Ser Pro Ile Thr Gln Arg Tyr Arg Leu Arg Phe | | | | |
| 1805 | 1814 | 1823 | 1832 | 1841 |
| CGT TAC GCT TCC AGT AGG GAT GCA CGA GTT ATA GTA TTA | | | | |
| Arg Tyr Ala Ser Ser Arg Asp Ala Arg Val Ile Val Leu | | | | |
| 1850 | 1859 | 1868 | 1877 | |
| ACA GGA GCG GCA TCC ACA GGA GTG GGA GGC CAA GTT AGT | | | | |
| Thr Gly Ala Ala Ser Thr Gly Val Gly Gly Gln Val Ser | | | | |
| 1886 | 1895 | 1904 | 1913 | |
| GTA AAT ATG CCT CTT CAG AAA ACT ATG GAA ATA GGG GAG | | | | |
| Val Asn MET Pro Leu Gln Lys Thr MET Glu Ile Gly Glu | | | | |
| 1922 | 1931 | 1940 | 1949 | 1958 |
| AAC TTA ACA TCT AGA ACA TTT AGA TAT ACC GAT TTT AGT | | | | |
| Asn Leu Thr Ser Arg Thr Phe Arg Tyr Thr Asp Phe Ser | | | | |

FIG. 14I

| | | | | |
|---|------|------|------|------|
| 1967 | 1976 | 1985 | 1994 | |
| AAT CCT TTT TCA TTT AGA GCT AAT CCA GAT ATA ATT GGG | | | | |
| Asn Pro Phe Ser Phe Arg Ala Asn Pro Asp Ile Ile Gly | | | | |
| 2003 | 2012 | 2021 | 2030 | |
| ATA AGT GAA CAA CCT CTA TTT GGT GCA GGT TCT ATT AGT | | | | |
| Ile Ser Glu Gln Pro Leu Phe Gly Ala Gly Ser Ile Ser | | | | |
| 2039 | 2048 | 2057 | 2066 | 2075 |
| AGC GGT GAA CTT TAT ATA GAT AAA ATT GAA ATT ATT CTA | | | | |
| Ser Gly Glu Leu Tyr Ile Asp Lys Ile Glu Ile Ile Leu | | | | |
| 2084 | 2093 | 2102 | 2111 | |
| GCA GAT GCA ACA TTT GAA GCA GAA TCT GAT TTA GAA AGA | | | | |
| Ala Asp Ala Thr Phe Glu Ala Glu Ser Asp Leu Glu Arg | | | | |
| 2120 | 2129 | 2138 | 2147 | |
| GCA CAA AAG GCG GTG AAT GCC CTG TTT ACT TCT TCC AAT | | | | |
| Ala Gln Lys Ala Val Asn Ala Leu Phe Thr Ser Ser Asn | | | | |
| 2156 | 2165 | 2174 | 2183 | 2192 |
| CAA ATC GGG TTA AAA ACC GAT GTG ACG GAT TAT CAT ATT | | | | |
| Gln Ile Gly Leu Lys Thr Asp Val Thr Asp Tyr His Ile | | | | |

FIG. 14J

| | | | | |
|---|------|------|------|------|
| 2201 | 2210 | 2219 | 2228 | |
| GAT CAA GTA TCC AAT TTA GTG GAT TGT TTA TCA GAT GAA | | | | |
| Asp Gln Val Ser Asn Leu Val Asp Cys Leu Ser Asp Glu | | | | |
| 2237 | 2246 | 2255 | 2264 | |
| TTT TGT CTG GAT GAA AAG CGA GAA TTG TCC GAG AAA GTC | | | | |
| Phe Cys Leu Asp Glu Lys Arg Glu Leu Ser Glu Lys Val | | | | |
| 2273 | 2282 | 2291 | 2300 | 2309 |
| AAA CAT GCG AAG CGA CTC AGT GAT GAG CGG AAT TTA CTT | | | | |
| Lys His Ala Lys Arg Leu Ser Asp Glu Arg Asn Leu Leu | | | | |
| 2318 | 2327 | 2336 | 2345 | |
| CAA GAT CCA AAC TTC AGA GGG ATC AAT AGA CAA CCA GAC | | | | |
| Gln Asp Pro Asn Phe Arg Gly Ile Asn Arg Gln Pro Asp | | | | |
| 2354 | 2363 | 2372 | 2381 | |
| CGT GGC TGG AGA GGA AGT ACA GAT ATT ACC ATC CAA GGA | | | | |
| Arg Gly Trp Arg Gly Ser Thr Asp Ile Thr Ile Gln Gly | | | | |
| 2390 | 2399 | 2408 | 2417 | 2426 |
| GGA GAT GAC GTA TTC AAA GAG AAT TAC GTC ACA CTA CCG | | | | |
| Gly Asp Asp Val Phe Lys Glu Asn Tyr Val Thr Leu Pro | | | | |

FIG. 14K

| | | | | |
|---|------|------|------|------|
| 2435 | 2444 | 2453 | 2462 | |
| GGT ACC GTT GAT GAG TGC TAT CCA ACG TAT TTA TAT CAG | | | | |
| Gly Thr Val Asp Glu Cys Tyr Pro Thr Tyr Leu Tyr Gln | | | | |
| 2471 | 2480 | 2489 | 2498 | |
| AAA ATA GAT GAG TCG AAA TTA AAA GCT TAT ACC CGT TAT | | | | |
| Lys Ile Asp Glu Ser Lys Leu Lys Ala Tyr Thr Arg Tyr | | | | |
| 2507 | 2516 | 2525 | 2534 | 2543 |
| GAA TTA AGA GGG TAT ATC GAA GAT AGT CAA GAC TTA GAA | | | | |
| Glu Leu Arg Gly Tyr Ile Glu Asp Ser Gln Asp Leu Glu | | | | |
| 2552 | 2561 | 2570 | 2579 | |
| ATC TAT TTG ATC CGT TAC AAT GCA AAA CAC GAA ATA GTA | | | | |
| Ile Tyr Leu Ile Arg Tyr Asn Ala Lys His Glu Ile Val | | | | |
| 2588 | 2597 | 2606 | 2615 | |
| AAT GTG CCA GGC ACG GGT TCC TTA TGG CCG CTT TCA GCC | | | | |
| Asn Val Pro Gly Thr Gly Ser Leu Trp Pro Leu Ser Ala | | | | |
| 2624 | 2633 | 2642 | 2651 | 2660 |
| CAA AGT CCA ATC GGA AAG TGT GGA GAA CCG AAT CGA TGC | | | | |
| Gln Ser Pro Ile Gly Lys Cys Gly Glu Pro Asn Arg Cys | | | | |

FIG. 14L

| | | | | |
|---|------|------|------|------|
| 2669 | 2678 | 2687 | 2696 | |
| GCG CCA CAC CTT GAA TGG AAT CCT GAT CTA GAT TGT TCC | | | | |
| Ala Pro His Leu Glu Trp Asn Pro Asp Leu Asp Cys Ser | | | | |
| 2705 | 2714 | 2723 | 2732 | |
| TGC AGA GAC GGG GAA AAA TGT GCA CAT CAT TCC CAT CAT | | | | |
| Cys Arg Asp Gly Glu Lys Cys Ala His His Ser His His | | | | |
| 2741 | 2750 | 2759 | 2768 | 2777 |
| TTC ACC TTG GAT ATT GAT GTT GGA TGT ACA GAC TTA AAT | | | | |
| Phe Thr Leu Asp Ile Asp Val Gly Cys Thr Asp Leu Asn | | | | |
| 2786 | 2795 | 2804 | 2813 | |
| GAG GAC TTA GGT GTA TGG GTG ATA TTC AAG ATT AAG ACG | | | | |
| Glu Asp Leu Gly Val Trp Val Ile Phe Lys Ile Lys Thr | | | | |
| 2822 | 2831 | 2840 | 2849 | |
| CAA GAT GGC CAT GCA AGA CTA GGG AAT CTA GAG TTT CTC | | | | |
| Gln Asp Gly His Ala Arg Leu Gly Asn Leu Glu Phe Leu | | | | |
| 2858 | 2867 | 2876 | 2885 | 2894 |
| GAA GAG AAA CCA TTA TTA GGG GAA GCA CTA GCT CGT GTG | | | | |
| Glu Glu Lys Pro Leu Leu Gly Glu Ala Leu Ala Arg Val | | | | |

FIG. 14M

| | | | | |
|---|------|------|------|------|
| 2903 | 2912 | 2921 | 2930 | |
| AAA AGA GCG GAG AAG AAG TGG AGA GAC AAA CGA GAG AAA | | | | |
| Lys Arg Ala Glu Lys Lys Trp Arg Asp Lys Arg Glu Lys | | | | |
| 2939 | 2948 | 2957 | 2966 | |
| CTG CAG TTG GAA ACA AAT ATT GTT TAT AAA GAG GCA AAA | | | | |
| Leu Gln Leu Glu Thr Asn Ile Val Tyr Lys Glu Ala Lys | | | | |
| 2975 | 2984 | 2993 | 3002 | 3011 |
| GAA TCT GTA GAT GCT TTA TTT GTA AAC TCT CAA TAT GAT | | | | |
| Glu Ser Val Asp Ala Leu Phe Val Asn Ser Gln Tyr Asp | | | | |
| 3020 | 3029 | 3038 | 3047 | |
| AGA TTA CAA GTG GAT ACG AAC ATC GCG ATG ATT CAT GCG | | | | |
| Arg Leu Gln Val Asp Thr Asn Ile Ala MET Ile His Ala | | | | |
| 3056 | 3065 | 3074 | 3083 | |
| GCA GAT AAA CGC GTT CAT AGA ATC CGG GAA GCG TAT CTG | | | | |
| Ala Asp Lys Arg Val His Arg Ile Arg Glu Ala Tyr Leu | | | | |
| 3092 | 3101 | 3110 | 3119 | 3128 |
| CCA GAG TTG TCT GTG ATT CCA GGT GTC AAT GCG GCC ATT | | | | |
| Pro Glu Leu Ser Val Ile Pro Gly Val Asn Ala Ala Ile | | | | |

FIG. 14N

| | | | | | | | | | | | | |
|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|
| 3137 | 3146 | 3155 | 3164 | | | | | | | | | |
| TTC | GAA | GAA | TTA | GAG | GGA | CGT | ATT | TTT | ACA | GCG | TAT | TCC |
| Phe | Glu | Glu | Leu | Glu | Gly | Arg | Ile | Phe | Thr | Ala | Tyr | Ser |
| 3173 | 3182 | 3191 | 3200 | | | | | | | | | |
| TTA | TAT | GAT | GCG | AGA | AAT | GTC | ATT | AAA | AAT | GGC | GAT | TTC |
| Leu | Tyr | Asp | Ala | Arg | Asn | Val | Ile | Lys | Asn | Gly | Asp | Phe |
| 3209 | 3218 | 3227 | 3236 | 3245 | | | | | | | | |
| AAT | AAT | GGC | TTA | TTA | TGC | TGG | AAC | GTG | AAA | GGT | CAT | GTA |
| Asn | Asn | Gly | Leu | Leu | Cys | Trp | Asn | Val | Lys | Gly | His | Val |
| 3254 | 3263 | 3272 | 3281 | | | | | | | | | |
| GAT | GTA | GAA | GAG | CAA | AAC | AAC | CAC | CGT | TCG | GTC | CTT | GTT |
| Asp | Val | Glu | Glu | Gln | Asn | Asn | His | Arg | Ser | Val | Leu | Val |
| 3290 | 3299 | 3308 | 3317 | | | | | | | | | |
| ATC | CCA | GAA | TGG | GAG | GCA | GAA | GTG | TCA | CAA | GAG | GTT | CGT |
| Ile | Pro | Glu | Trp | Glu | Ala | Glu | Val | Ser | Gln | Glu | Val | Arg |
| 3326 | 3335 | 3344 | 3353 | 3362 | | | | | | | | |
| GTC | TGT | CCA | GGT | CGT | GGC | TAT | ATC | CTT | CGT | GTC | ACA | GCA |
| Val | Cys | Pro | Gly | Arg | Gly | Tyr | Ile | Leu | Arg | Val | Thr | Ala |

FIG. 14P

| | | | | |
|---|------|------|------|------|
| 3371 | 3380 | 3389 | 3398 | |
| TAT AAA GAG GGA TAT GGA GAG GGC TGC GTA ACG ATC CAT | | | | |
| Tyr Lys Glu Gly Tyr Gly Glu Gly Cys Val Thr Ile His | | | | |
| 3407 | 3416 | 3425 | 3434 | |
| GAG ATC GAA GAC AAT ACA GAC GAA CTG AAA TTC AGC AAC | | | | |
| Glu Ile Glu Asp Asn Thr Asp Glu Leu Lys Phe Ser Asn | | | | |
| 3443 | 3452 | 3461 | 3470 | 3479 |
| TGT GTA GAA GAG GAA GTA TAT CCA AAC AAC ACA GTA ACG | | | | |
| Cys Val Glu Glu Glu Val Tyr Pro Asn Asn Thr Val Thr | | | | |
| 3488 | 3497 | 3506 | 3515 | |
| TGT AAT AAT TAT ACT GGG ACT CAA GAA GAA TAT GAG GGT | | | | |
| Cys Asn Asn Tyr Thr Gly Thr Gln Glu Glu Tyr Glu Gly | | | | |
| 3524 | 3533 | 3542 | 3551 | |
| ACG TAC ACT TCT CGT AAT CAA GGA TAT GAC GAA GCC TAT | | | | |
| Thr Tyr Thr Ser Arg Asn Gln Gly Tyr Asp Glu Ala Tyr | | | | |
| 3560 | 3569 | 3578 | 3587 | 3596 |
| GGT AAT AAC CCT TCC GTA CCA GCT GAT TAC GCT TCA GTC | | | | |
| Gly Asn Asn Pro Ser Val Pro Ala Asp Tyr Ala Ser Val | | | | |

FIG. 14Q

| | | | | |
|---------------------|-----------------------------|-------------|------|------|
| 3605 | 3614 | 3623 | 3632 | |
| TAT GAA GAA AAA TCG | TAT ACA GAT GGA CGA | AGA GAG AAT | | |
| Tyr Glu Glu Lys Ser | Tyr Thr Asp Gly Arg Arg | Glu Asn | | |
| 3641 | 3650 | 3659 | 3668 | |
| CCT TGT GAA TCT AAC | AGA GGC TAT GGG GAT | TAC ACA CCA | | |
| Pro Cys Glu Ser Asn | Arg Gly Tyr Gly Asp Tyr Thr | Pro | | |
| 3677 | 3686 | 3695 | 3704 | 3713 |
| CTA CCG GCT GGT TAT | GTA ACA AAG GAT TTA | GAG TAC TTC | | |
| Leu Pro Ala Gly Tyr | Val Thr Lys Asp Leu | Glu Tyr Phe | | |
| 3722 | 3731 | 3740 | 3749 | |
| CCA GAG ACC GAT AAG | GTA TGG ATT GAG ATC | GGA GAA ACA | | |
| Pro Glu Thr Asp Lys | Val Trp Ile Glu Ile | Gly Glu Thr | | |
| 3758 | 3767 | 3776 | 3785 | |
| GAA GGA ACA TTC ATC | GTG GAT AGC GTG GAA | TTA CTC CTT | | |
| Glu Gly Thr Phe Ile | Val Asp Ser Val Glu | Leu Leu Leu | | |
| 3794 | 3803 | 3813 | 3823 | 3833 |
| ATG GAG GAA TAA | GATACGTTAT AAAATGTAAC | GTATGCAAAT | | |
| MET Glu Glu | | | | |

FIG. 14R

3843 3853 3863 3873 3883
AAAGAATGAT TACTGACCTA TATTAACAGA TAAATAAGAA AATTTTTATA

3893 3903 3913 3923
CGAATAAAAA ACGGACATCA CTCTTAAGAG AATGATGTCC

FIG. 15A

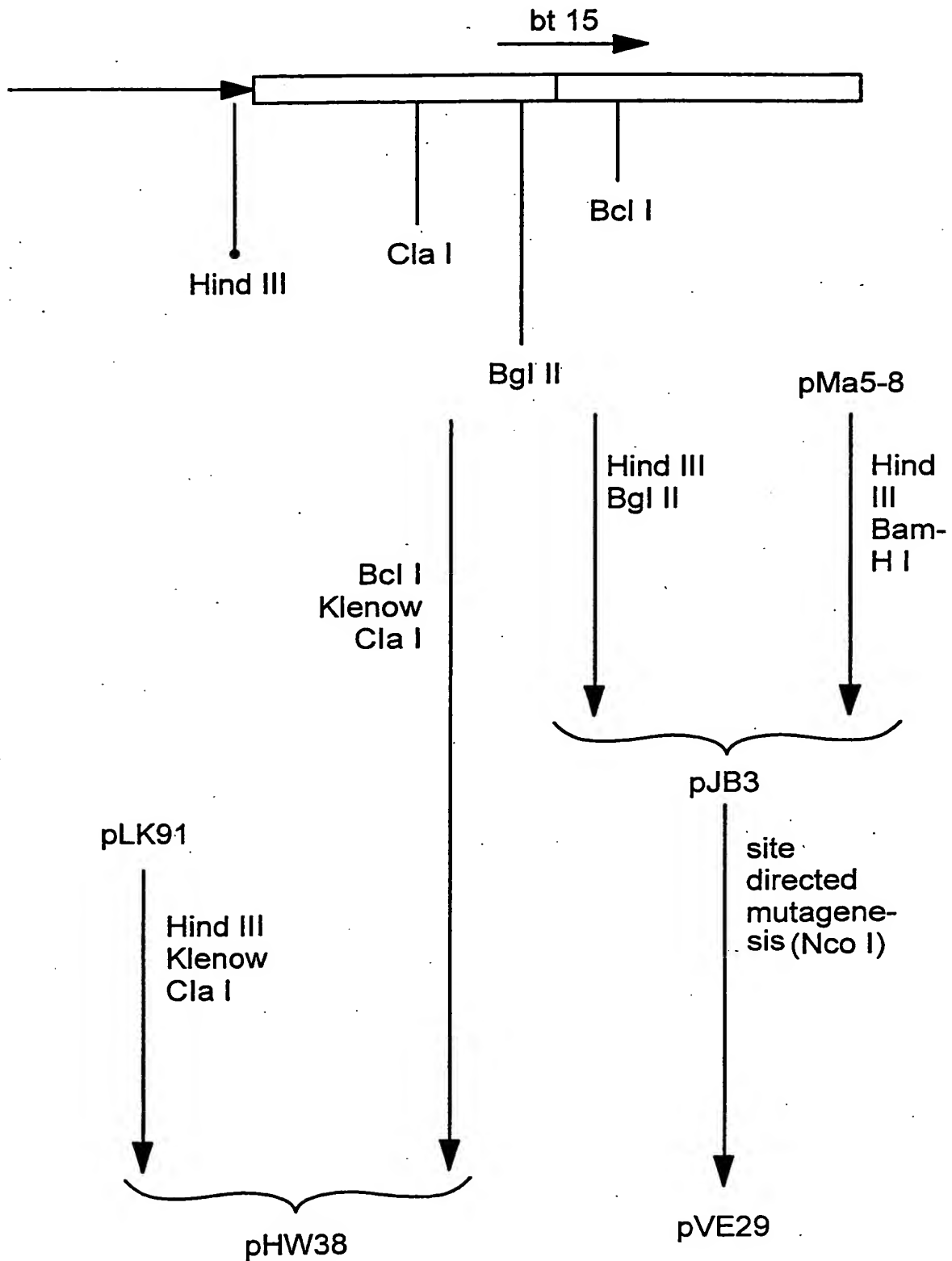


FIG. 15B

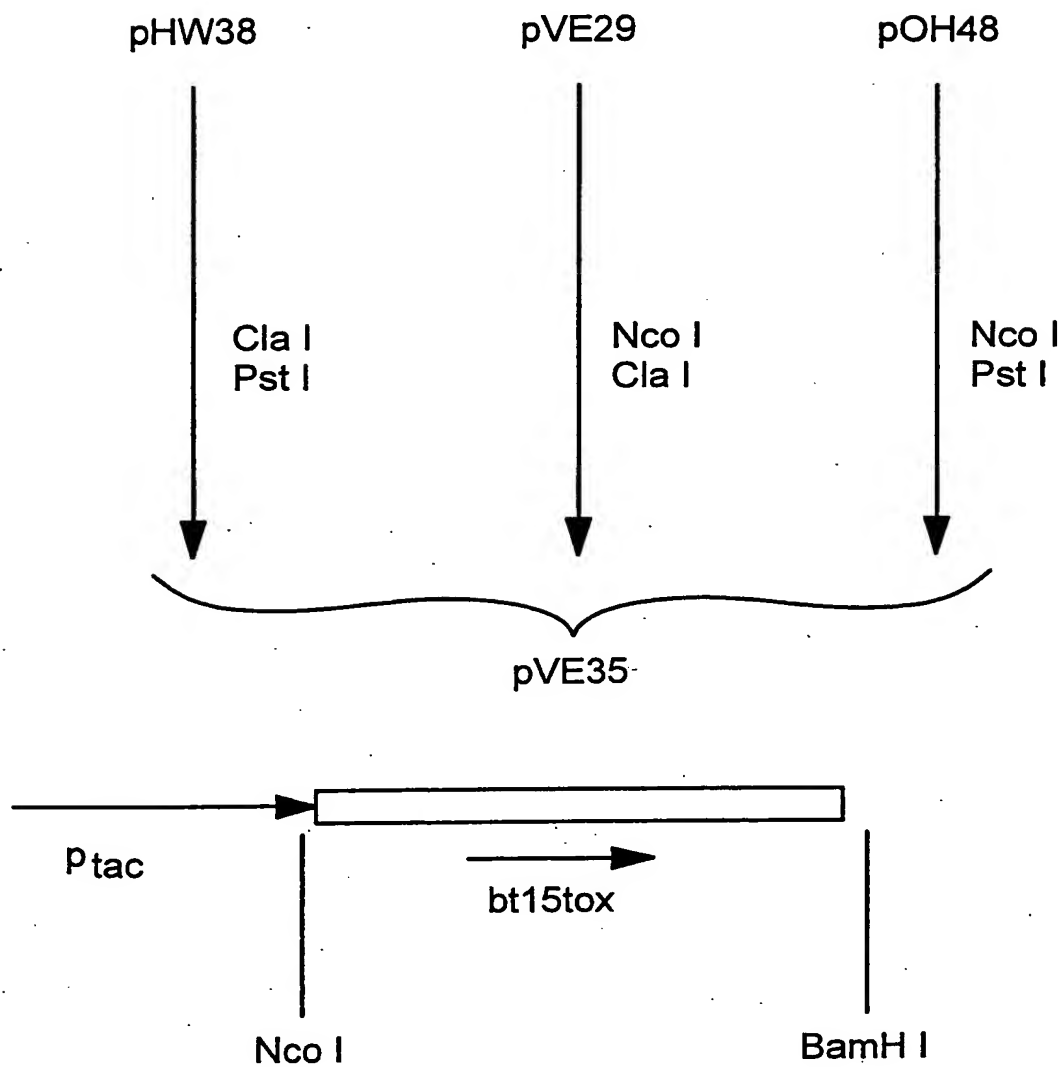


FIG. 15C

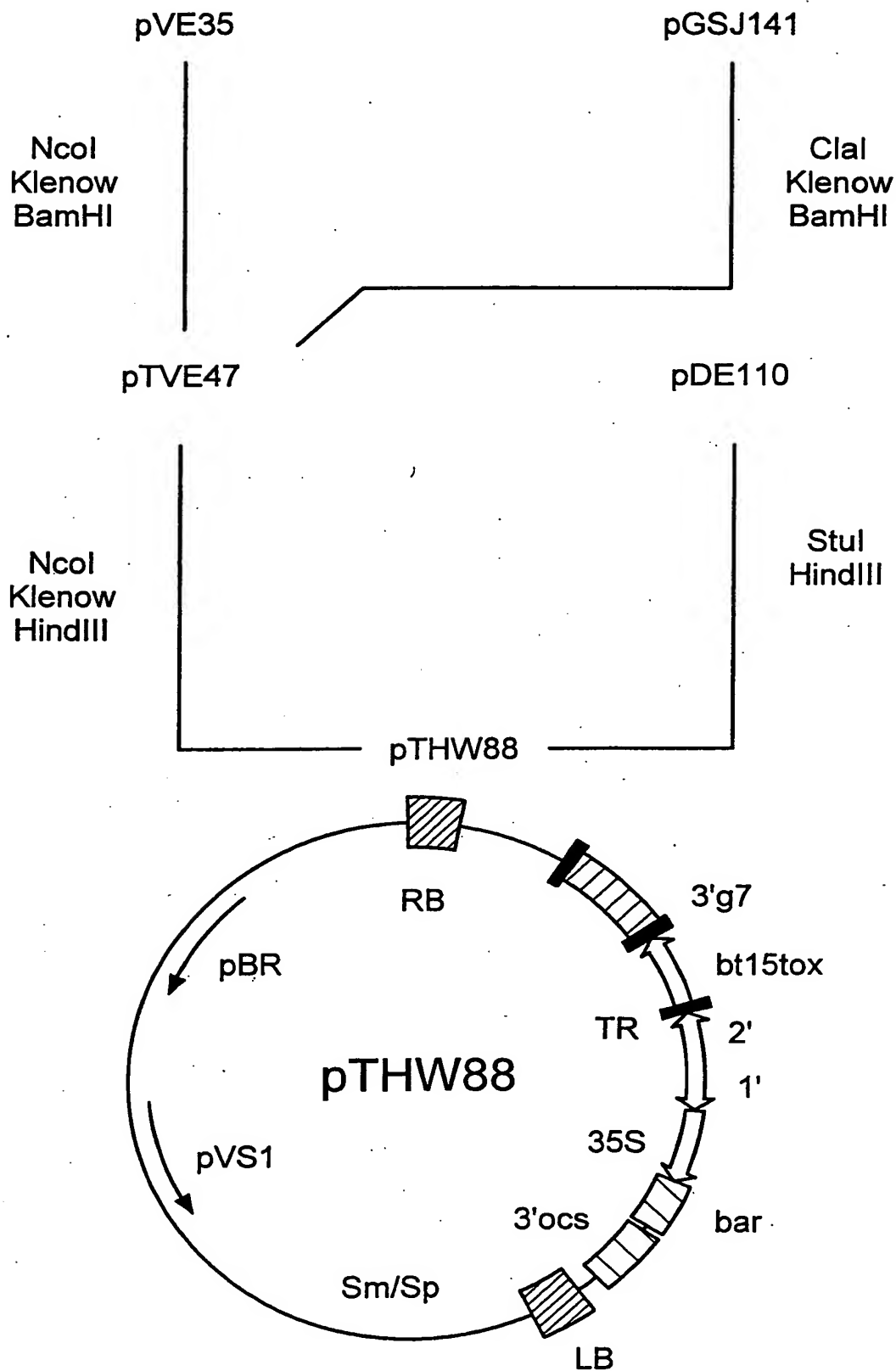


FIG. 16A

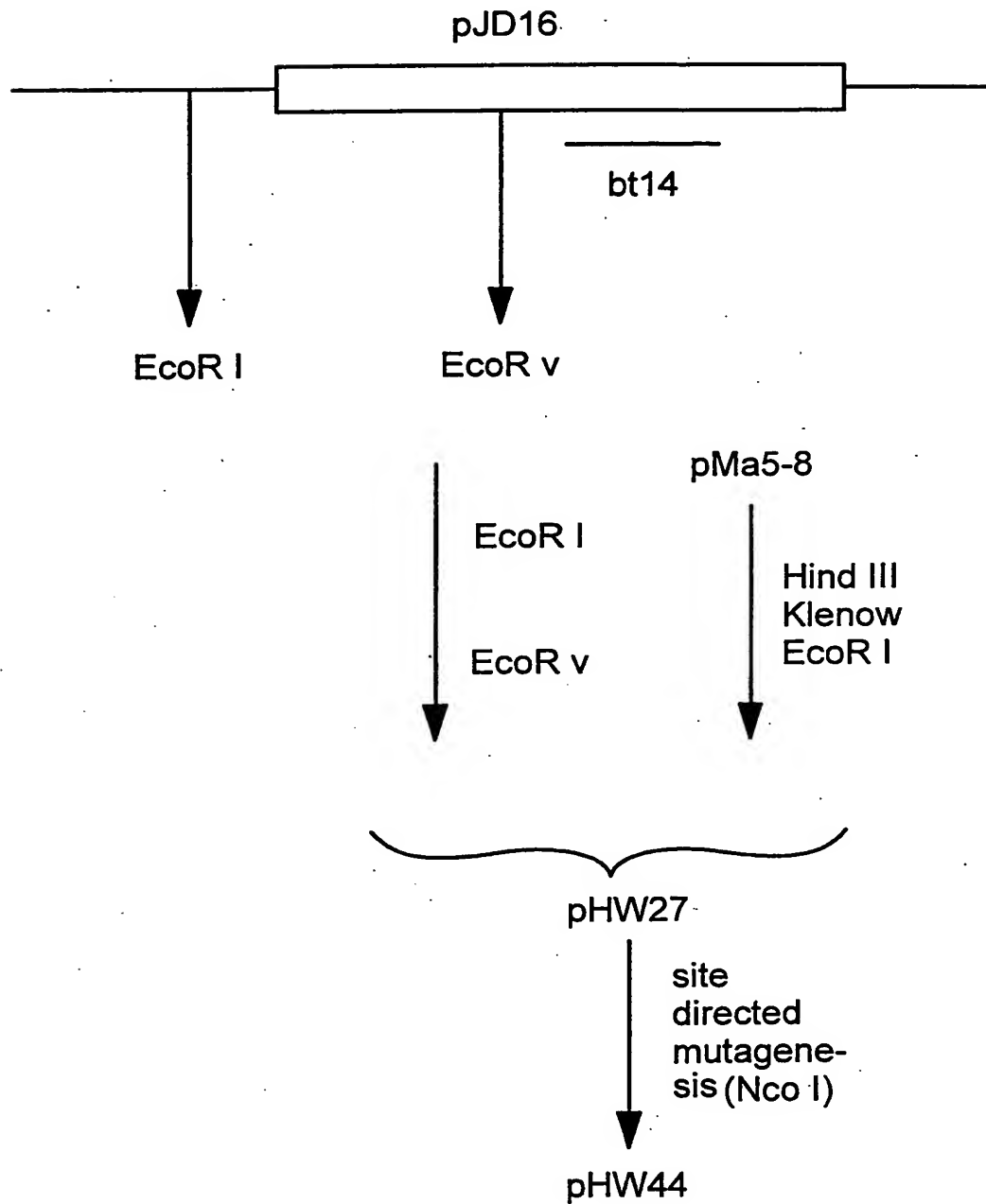


FIG. 16B

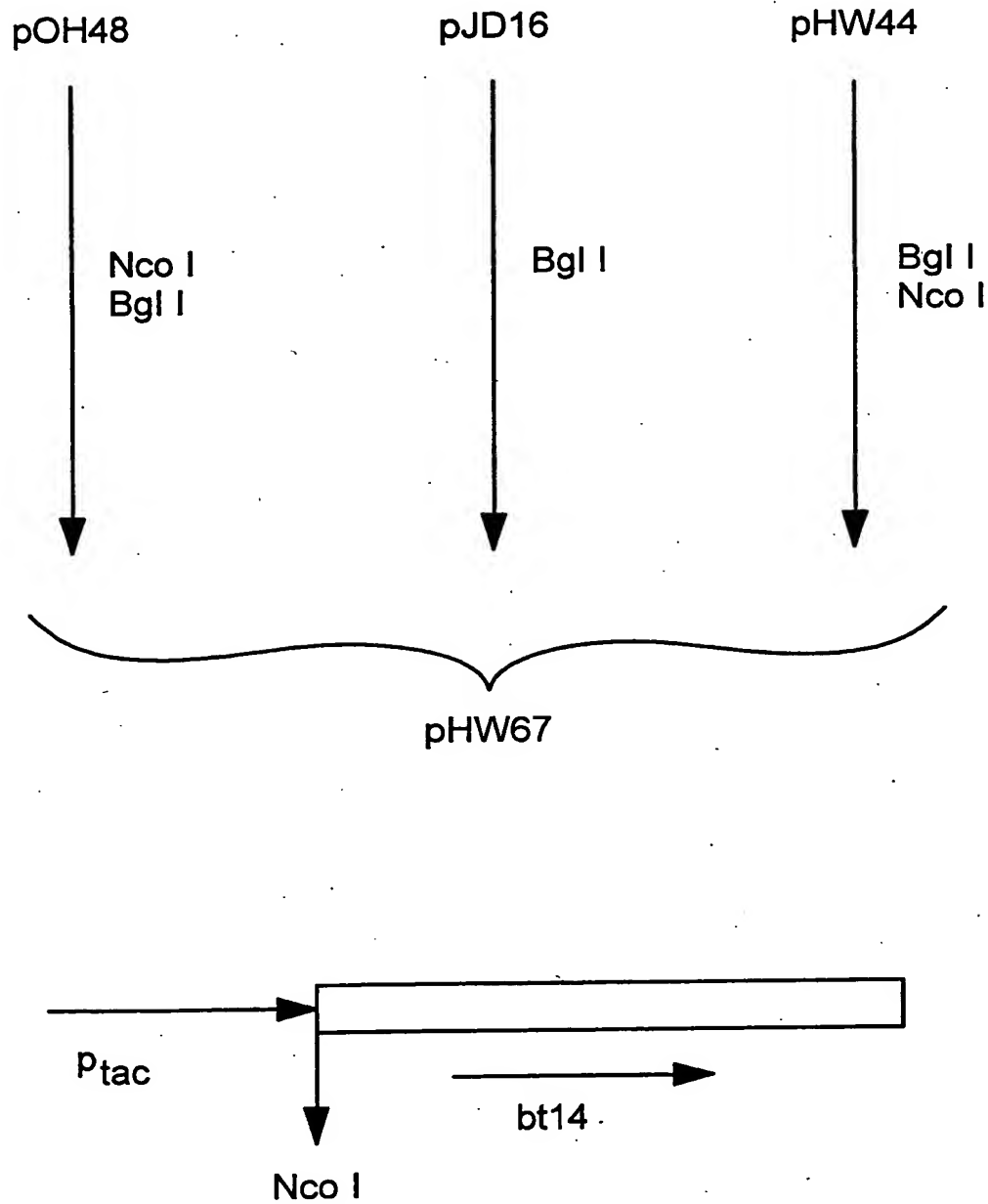


FIG. 16C

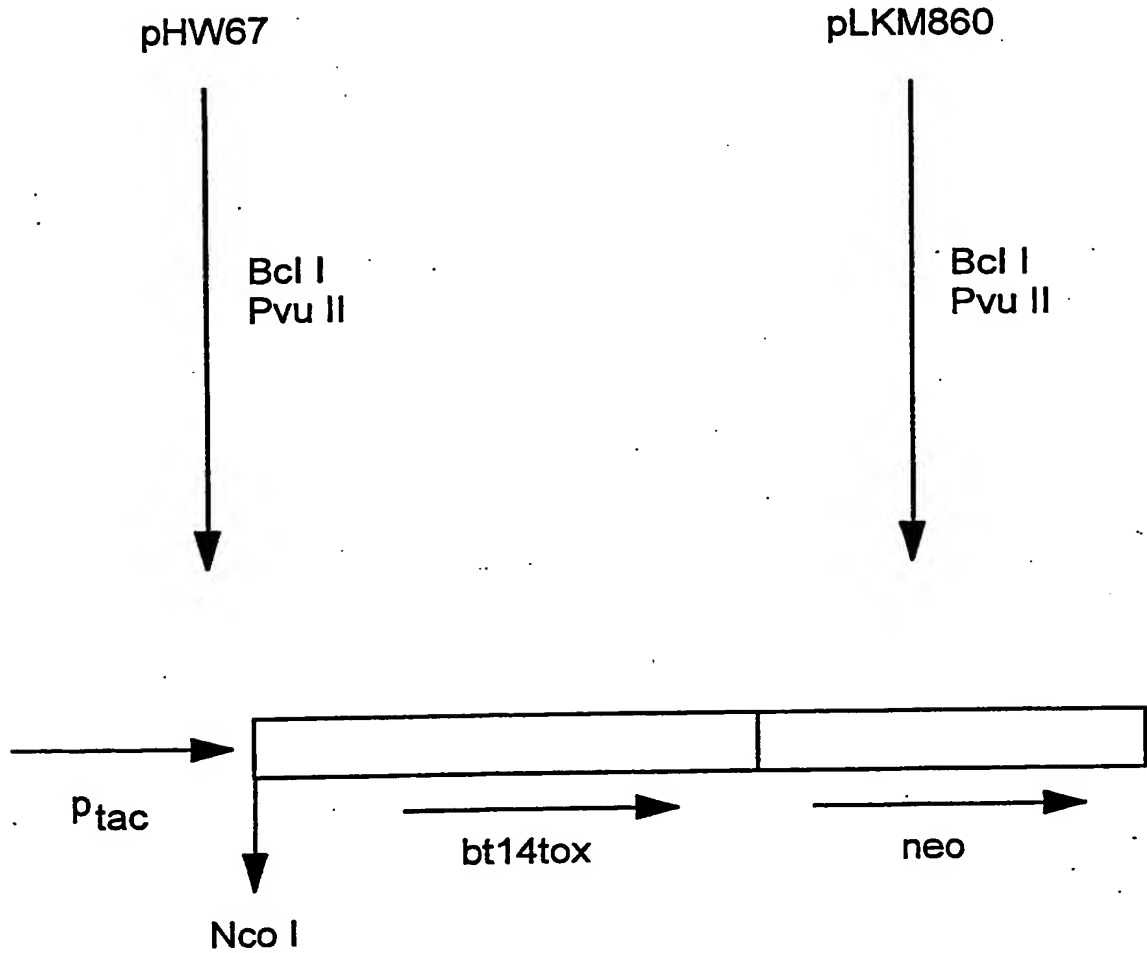


FIG. 16D

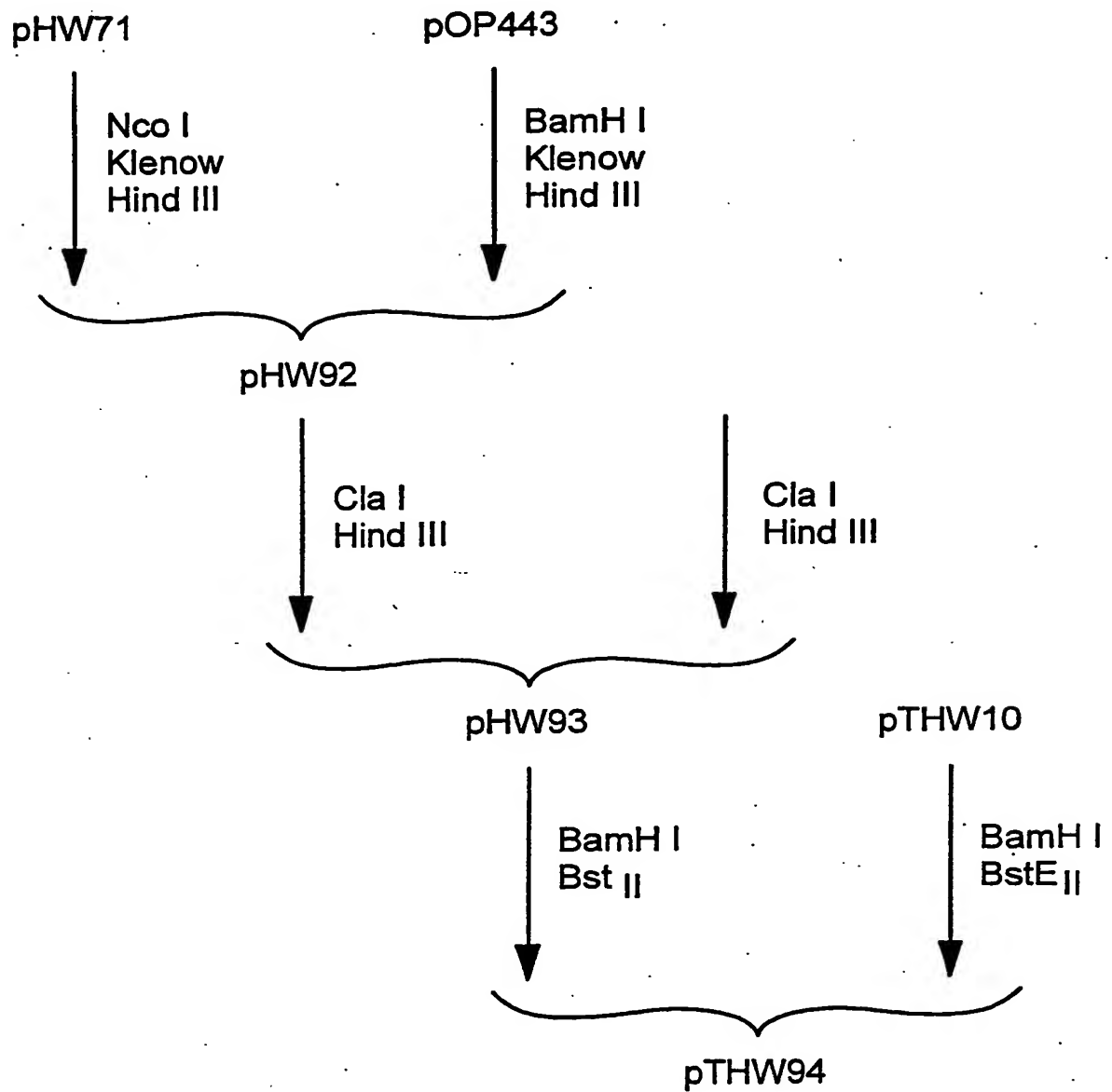
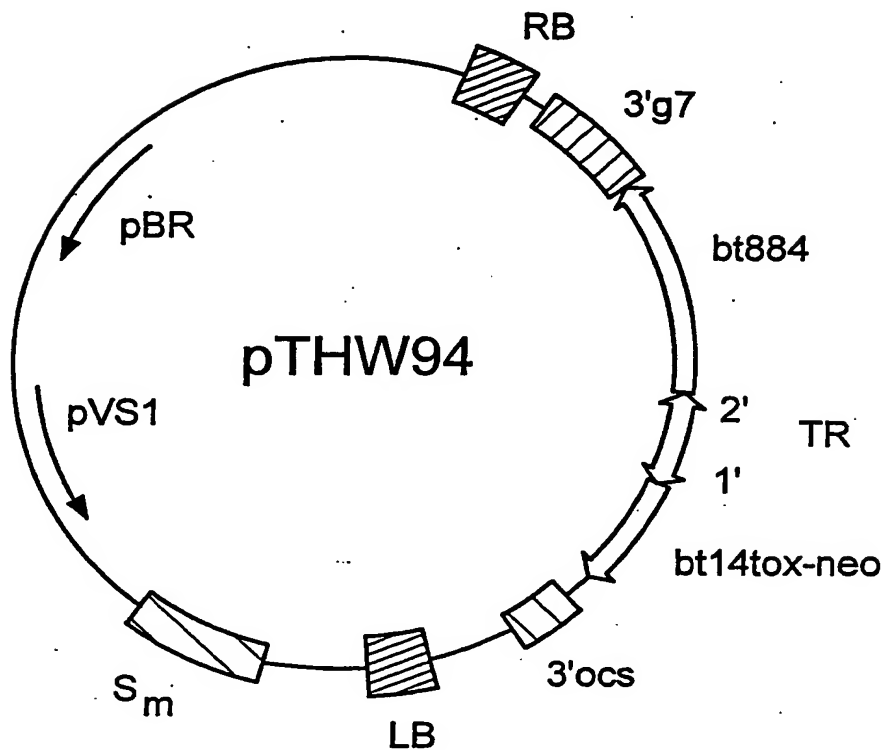


FIG. 16E



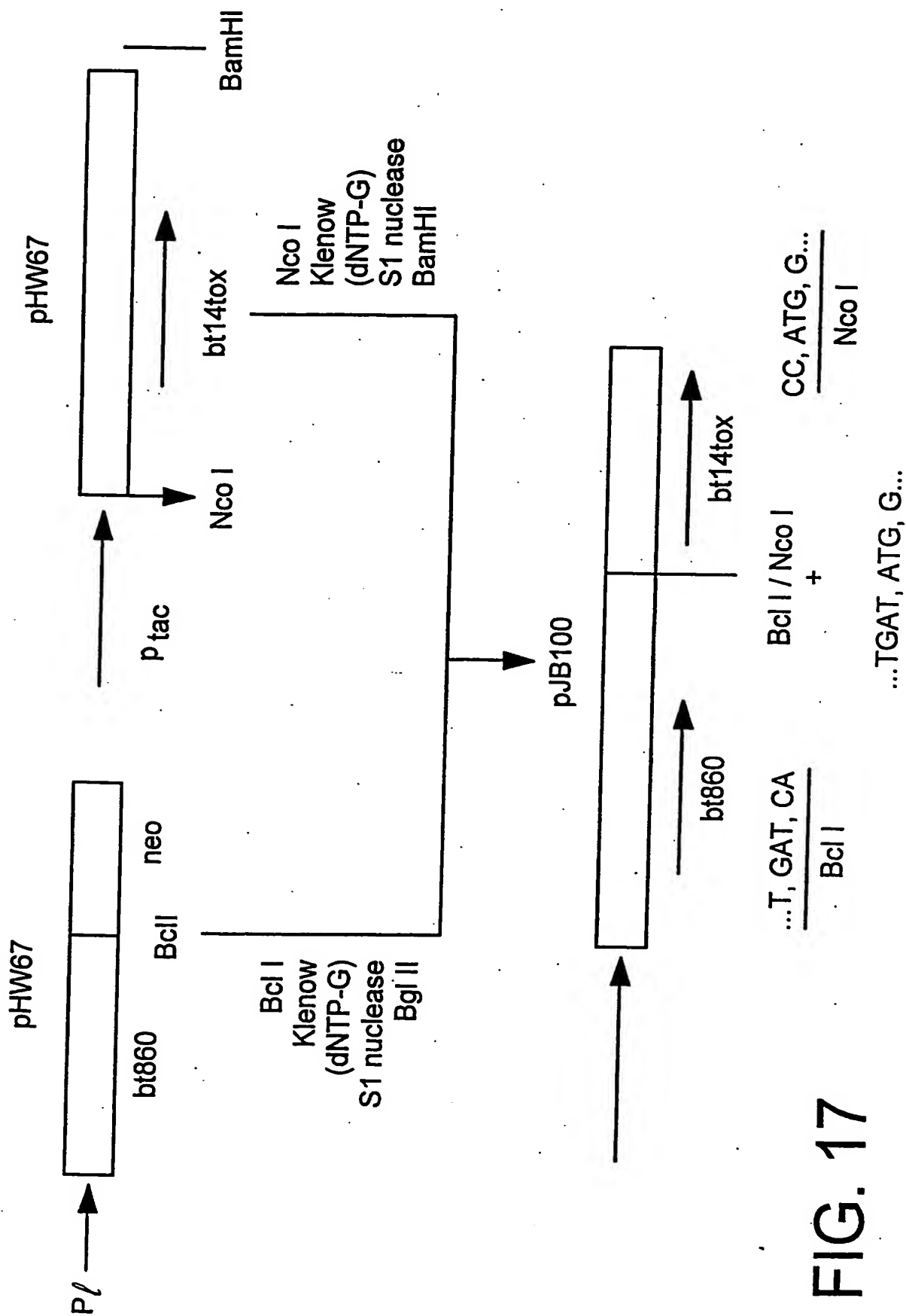


FIG. 17